

THE IRON AGE

THURSDAY, JULY 23, 1891.

The Largest Ore Dock in the World.

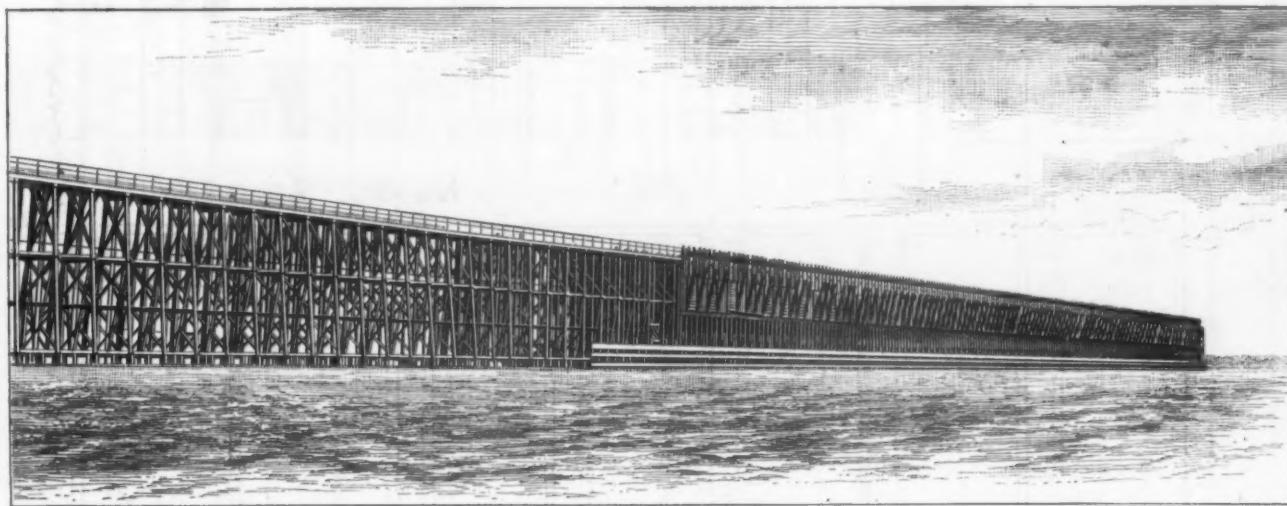
The new ore docks of the Escanaba, Iron Mountain and Western Railway Company are located at Escanaba, Mich., on Little Bay De Noc, about 2 miles north of the C. and N. W. Ry. Co.'s docks, at what is called North Escanaba. They were built in connection with the E. I. M. and W. Ry. by the Schlesinger syndicate for the handling of ore from the syndicate mines only, and in opposition to the C. and N. W. Ry. The railway virtually parallels the C. & N. W. from Iron Mountain to Florence, but owing to the dullness of iron the road and docks were sold, and now are operated and controlled by the C. and N. W. Ry. The C and N. W. Ry. have just completed a connection with their yard in Escanaba, and will probably use the line for loaded trains and send the empty ones over the old line via Powers, as the grades in the new line are so much easier. It is calculated to haul 1000 tons with a consolidated engine with 9800 on the drivers, | Forge Company. The dock is reached by

waukeee, Wis. The pile work was done by the Chicago Dredge and Dock Company of Chicago, Ill.; timber work by R. B. Dear of West Superior, Wis. G. M. Willis, chief engineer, and E. C. Hollidge, assistant engineer, in charge of construction, to whom we are indebted for the data and drawings presented. Steam jets were used to drive the piles, in connection with a steam hammer. Deep water is 2300 feet from the shore, and the end of the dock was placed 100 feet back from deep water, there being only 7 feet of water at a point 2300 feet from shore, at which it drops off to 30 or 40 feet. The piles were driven 26 to 30 feet below the bottom of the lake. The channels for vessels are now being dredged by the Chicago Dredge and Dock Company, and are to be 100 feet wide at the bottom. Breakwaters are also being put in for the protection of vessels loading. The best quality of timber, iron and steel were used, the iron and steel being furnished by the Chicago Bolt and

bent tube. The author states that with about 5½ pints of alcohol in the inner vessel, which acts as a bath in the experiments, and with a consumption of from 4.4 to 5.5 pounds of liquid carbonic acid, a temperature of 95° below zero F. can be obtained in a few minutes. When the circulation is stopped the apparatus cools very slowly, as it is surrounded with non-conducting coverings. In one test it was found that after nine hours the temperature of the alcohol had only risen from 95° to 7.5 below zero. By allowing a small quantity of carbonic acid to pass continuously a constant low temperature can be obtained.

The Abendroth & Root Boiler in Philadelphia.

Director Roney has forwarded to Mayor Stuart of Philadelphia a letter which he had received from Boiler Inspector Overn concerning the new additions to the



THE LARGEST ORE DOCK IN THE WORLD.

about 500 being the limit on the old line of the C. and N. W.

The docks which have just been completed are the largest and highest ore docks in the world, holding 10,000 tons more than the next largest and 5 feet higher rail, being 52 feet above the water. The union converter balance hoists for working the spouts are used, by which two men raise or lower the spout in from nine to eleven seconds, while with the old style it required four to six men two minutes to raise them.

General Data

Ore dock.	Approach.	Total.
No. piles....	5,000	1,25
Lineal feet		6,534
piling....	202,508	21,963
Feet B. M.		224,561
timber....	5,401,214	1,033,117
Cast iron....	81,329	81,329
W r o u g h t		
iron....	927,254	53,808
Steel.....	733,584	733,584
Total iron and steel....		1,825,975
Lineal feet		126
Howe truss	1,427	2,091
Length		3,518
Cost.....	\$244,630.40	\$ 36,973.77
Pocket angle 40. Base of rail, 54 ft. above water.		\$281,604.17

The principal contractors for the road and docks were McIntosh Bros. of Mil-

a timber trestle on pile foundation, 2091 feet long and from 20 to 52 feet high, with a 126-foot Howe truss from the main line of the C. and N. W. Railway.

Cailletet's Cryogene.

This is a new apparatus, constructed by Mr. Ducretet from the designs of Mr. Cailletet, and intended to produce cold of 95° to 110° below zero F., by the expansion of liquid carbonic acid. The apparatus consists of two concentric vessels with a small annular space between them. A spiral coil is placed inside the inner vessel, and this is put in connection with a closed vessel containing liquefied carbonic acid. The apparatus is made of nickel-plated copper. The spiral coil is in connection at its lower end with the annular chamber, and is provided with a stop cock at the top. When experiments are to be made the inner vessel is filled with alcohol, the stop cock on the carbonic acid vessel is fully opened and the cock upon the spiral coil partially opened, the liquid carbonic acid passes slowly into the coil and takes the form of snow; it passes through the coil into the annular chamber, in which are placed pieces of sponge soaked in alcohol, which arrest all acid which has not become gaseous, and the gas itself passes out of the apparatus by a

Abendroth & Root boilers at Edison's Electric Light Works on Sansom street above Ninth, Philadelphia. The bad condition of the boilers at that establishment, it was stated, caused, during a period extending through several months, a number of explosions, due to the blowing off of boiler bends. Early in January an employee of the company came to his death by being scalded with boiling water, the result of an explosion. At the coroner's inquest, held January 30 and 31, an expert jury was called, who rendered a verdict making the Edison Company responsible for the man's death. The jury declined to state the cause of the explosion, as they considered that out of their province in serving at a coroner's inquest. They bore out Chief Overn's statement while on the witness stand, that the boilers were fired beyond their capacity, by the following words:

"That some of the boilers were forced far beyond their rated capacity for making steam is established by the evidence, although the steam pressure was not shown to have been at any time excessive."

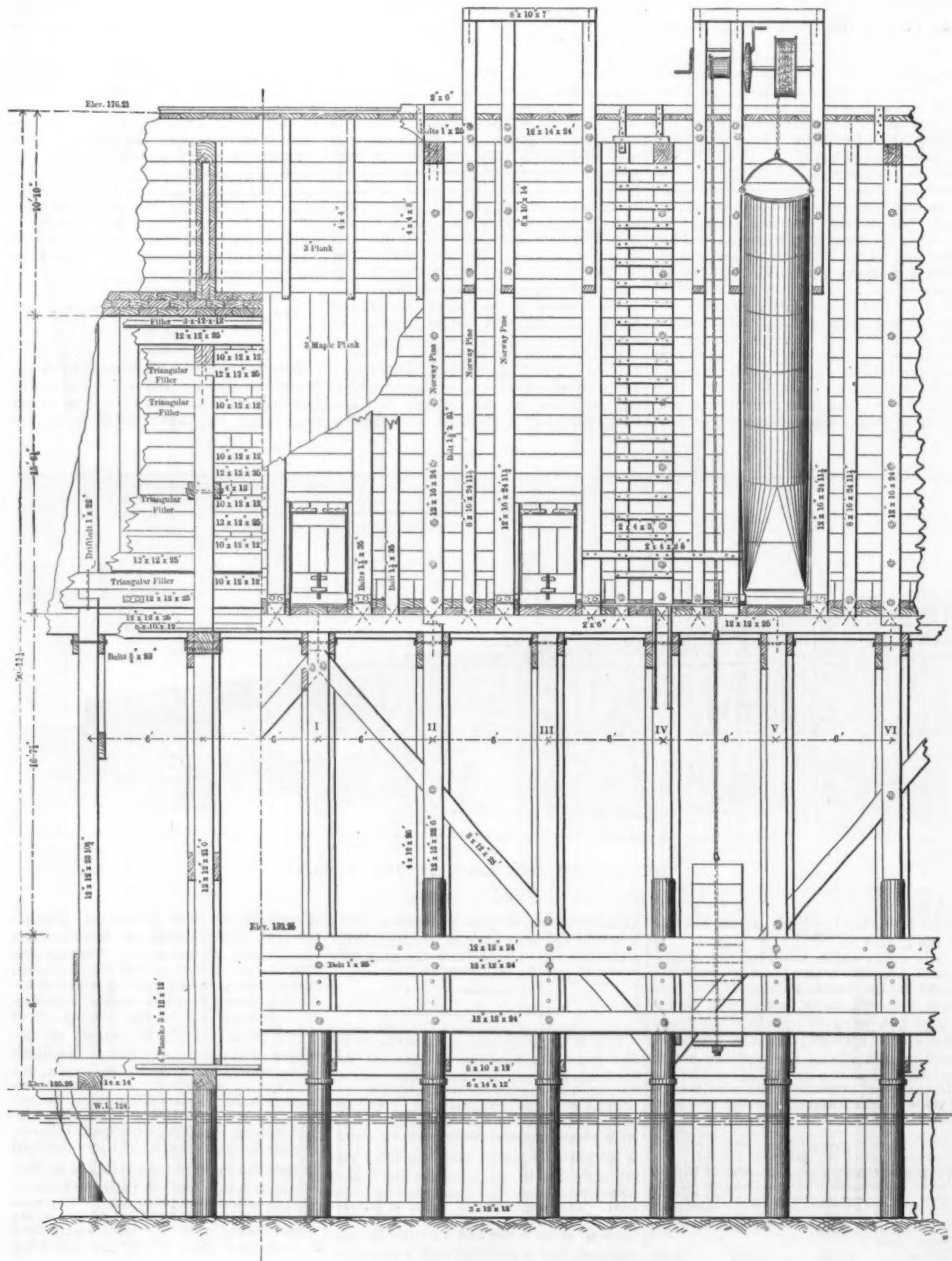
The statement was made during the inquest that poor material was used in the boilers, and also that the construction was bad and the workmanship faulty. The latter statement was made by Professor Marks, superintendent of the Edison

Works, who thought that defective bolts in the bends caused the numerous explosions. That Professor Marks is still of the same opinion, despite the verdict, is shown

ring you to my communication of the 4th ult., setting forth in detail my examination and investigation pertaining to the boilers of the Edison Electric Light Company, at their works on Sansom street, above Ninth street, and my

working in an extremely dangerous manner, as the number of accidents, the numerous explosions and breaking of bolts fully prove.

To remove this difficulty and the supposed cause of it, namely, "bad workmanship," as



Part Longitudinal Sectional Elevation.

THE LARGEST ORE DOCK IN THE WORLD.

in Chief Overn's letter. It is given in full below:

BUREAU OF INSPECTION OF
BOILERS AND ENGINES,
CITY HALL, July 6, 1891.

GEORGE RONEY, ESQ., DIRECTOR DEPARTMENT OF PUBLIC SAFETY.—*Dear Sir:* Refer-

conclusions concerning the same, I beg leave to make further report, and would say that on July 2d inst., in company with Mr. Frederick Prime, president of the company, and Mr. Marks, superintendent, I made further examination of the reconstructed boilers.

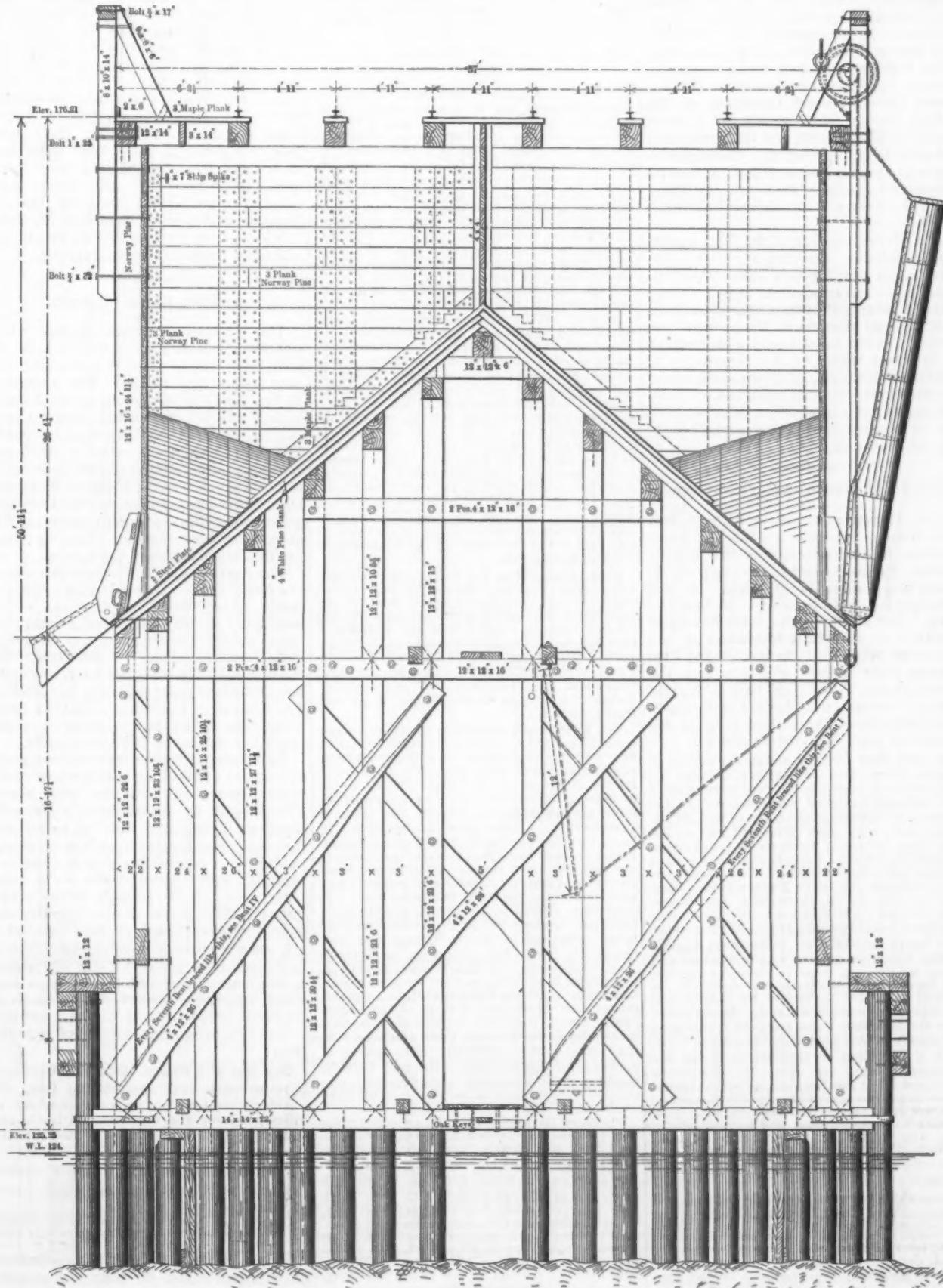
It is entirely manifest that for the past 18 months the boilers at these works have been

advanced by Professor Marks, the superintendent, and by the letter of Professor Spangler and John Codman, recent changes have been made in the header connections, which improvement consists of an increased bolt, formerly $\frac{5}{8}$ -inch, now $\frac{3}{4}$ -inch bolt, a more elastic joint ring, and the opening for the reception of the bolts "dressed out" for a more

yielding bearing, which defects, in the judgment of the company, constituted the sole causes of the numerous accidents.

In answer to this I have to say that, in my judgment, the explosions were in no wise due to these causes, as, in my opinion, the boilers

similar to the boilers now used by the Edison Electric Light Company; and I would further state that, in my opinion, the accidents were not due to the expansion of the tubes, but, on the contrary, were produced by a shock, the force of which was exerted upon the header, ult. Having, however, in view the large interests involved in the case, the immense responsibilities of the Edison Company already entered upon, and that the decision of the inspector shall not be arbitrary, or in any manner unjust, I would respectfully submit to you



Cross Sectional Elevation.

THE LARGEST ORE DOCK IN THE WORLD.

were fairly well made; and as an off-set to this theory I do say that of the numerous boilers of this character now in use, extending from New York to Cincinnati, which I have examined in order to locate the cause, I have failed to find a single instance of a broken bolt or a broken header in boilers constructed

and which was produced by a defective circulation in the boiler, induced by the forced firing to which the boilers were subjected. I am, therefore, of the opinion that the changes made will not remove the cause.

In view of which, I am unable to change my convictions as expressed in my letter of the 4th

the appointing of a jury of three or five competent steam engineers to investigate the case, to whose verdict I would most graciously submit. With regards, I am yours truly,
JOHN OVERN, Chief Inspector.

The Mayor, after considering the Chief's letter, decided to appoint a committee of

three to make an investigation, as suggested, and to return a full report to him. The three appointees of the Mayor were Edward Longstreth, a retired member of the Baldwin Locomotive Works; S. M. Van Clain, superintendent of Baldwin Locomotive Works, and W. S. Good, superintendent of the Southwark Iron Foundry. Mr. Longstreth was overcome with heat on Tuesday while at a meeting of the Williamson School Trustees, and in consequence was unable to serve. He suggested Lieut. Robert Crawford, of the United States Navy, to fill the vacancy caused by his sickness, and the Lieutenant was accordingly appointed. These gentlemen waited upon Mayor Stuart, and were instructed to make a thorough investigation and return a "full, fair and impartial report."

Prof. Marks, manager of the Edison plant in Philadelphia, was present at the consultation in the Mayor's office when the commission was appointed. Chief Overn, Director Roney, Professor Spangler, John Codman and Samuel B. Huey were also present. Every opportunity will be given by Professor Marks to the commission to make the examination of the much discussed boilers, as was the case when the coroner's jury made their examination. The preparation of the committee's report will probably take some days.

Chicago and South American Trade.

G. C. Powers returned to Chicago last week from an extensive trip through South America in the interests of the Illinois Central Railroad, and incidentally to do proselyting for the World's Fair. He was accompanied by A. Schreiber of New Orleans. The people of the Latin American countries are all greatly interested in the movement being made to shorten the time between their various countries and the United States. Any plan that is feasible looking toward the desired end meets with immediate favor. Speaking of the completed tour, Mr. Powers said :

We left New Orleans about the middle of March, going first to Havana. There we were received cordially by the merchants of that city, who evinced great interest in the prospect of reaching the heart of the Mississippi Valley with their products and at the same time of being brought in quick communication with the collecting point for most of the articles they consume. These are flour, salt provisions, fish, malt liquors, cotton, linen and woolen goods, hardware, machinery, glass, crockery, furniture, &c. In this connection there is an interesting fact. Owing to the very heavy duty on flour it has been possible to ship American flour to Spain, rebrand and reship as Spanish flour to Cuba for a profit, and the extent of the trade that could be developed with the Northwest by shorter and less expensive transportation may be estimated from the fact that Cuba received from Spain in January of this year 41,000 barrels of flour. With a reduction or elimination of the discriminating duty on flour the Northwest should get all of this business, as well as the increase in the consumption naturally developed by lower cost. As for the advantages of opening direct communication and correspondence with the center of consumption of their products, the merchants of Cuba were quick to grasp and appreciate the benefits of the Chicago market.

From Cuba we went to Mexico, stopping at Progreso, Vera Cruz, Orizaba, Mexico City, Guadalajara, Tepic and San Blas, crossing the country by rail, diligence and mule back, going by rail from Guadalajara. With the rapid development toward the gulf of railroads in Mexico and the pushing of the construction of the Tehuantepec Railroad to the Pacific it became of vital importance to the merchants not only of Mexico but of Central America as well to know where they could reach the quickest and best market after getting to the gulf. At present greater attention is being shown in Mexico to the increase of the coffee crop and to the more uniform grading and packing. A great deal of this coffee finds its way now to Chicago and the Northwest—from Central America little or none. Is it too much to assume that with cheapened transportation to a large market like Chicago much of the net proceeds of the coffee shipments would return in the shape of

iron and steel manufacture (railroad material, steel rails, locomotives and cars), cotton goods, timber, sash, doors and blinds, furniture, agricultural implements, live stock, meat and dairy products, breadstuffs, malt liquors and boot and shoes, chemicals, coal, gunpowder and explosives, leather and manufactures thereof, oil, paper and stationery, &c., and that Chicago, the collecting point for the United States, is naturally the distributing point for Spanish America as well?

From San Blas we went by steamer to Guatemala, stopping at several Central American ports on the way. Central American trade today is all practically in the hands of Europe. We understand this is due to the fact that lower through rates to West Coast ports via Panama can be obtained from Hamburg, Liverpool or Havre than from New York, the Pacific Mail Steamship Company performing in either case the service of the West Coast. Were this reversed a good trade could be built up with Guatemala and probably with the republics south of it. Barbed wire, corrugated iron, cutlery, &c., are being imported largely from Hamburg. The port of Chameperico ships annually 550,000 quintals (about 420,000 sacks) of coffee, all of which goes to Europe, and the same condition of things obtains pretty much all along the coast of Central America. With adequate steamship communication there are great possibilities of trade with Mexico, and we are convinced that business could be extended over the whole country from the gulf to the Pacific Coast. It will be some time before we can look for more business from Honduras and Costa Rica, except the fruit trade, and at present the trade of the West Coast is a monopoly in the hands of the Pacific Mail Steamship Company. A development of railroad facilities across the country in connection with additional steamship facilities would turn in the direction of the Atlantic the bulk of the coffee shipments, which now amount to 1,600,000 quintals (1,000,000 bags) annually. A movement of this kind would be backed by the whole people of Central America.

From Guatemala we went down the coast, stopping at Panama, Guayaquil, and in Peru going as far South as Lima. Much of the same state of affairs as regards transportation exists in these countries, with the addition of direct lines of steamers running to European ports. Owing to the disturbance in Chili the Northern ports of South America are receiving flour from San Francisco in large quantities. Before the trouble it was cheaper to get this flour from Chili.

We found that wherever American goods could be bought at equal prices with European they had the preference, and that high rates of transportation were generally responsible for the smallness of the trade. Owing to the increasing scarcity of labor mechanical appliances are increasing in demand, one estate in Peru having six steam plows in operation. In Lima we were received by President Bermudez. He expressed himself as greatly interested in the possibilities of the route via New Orleans and pledged himself officially to render whatever assistance he could in the matter. The American colony in Lima was greatly interested and we heard of large parties that were being organized to go to Chicago via New Orleans in 1893. The intelligent and earnest work being done by the World's Fair Commissioners is creating a very strong interest, and from Chili we learned that, in a conversation with Lieutenant Harlow of the United States Navy, President Balmaceda expressed an earnest desire to foster closer relations with the United States, especially in the matter of agricultural implements. He said that he conducted his haciendas with American machinery entirely and he wished that all Chili might do so.

President Bermudez of Peru appeared to attach considerable importance to the saving in mail time to Chicago, New York and to Europe by way of New Orleans, and readily saw the influence this would exert in affording a new channel of transportation to New York and Europe by way of Chicago, and that, while Chicago would naturally reap the greatest advantages, yet the new channel of profit would be opened up to New York that would in a measure compensate that city for the possible loss of a portion of the South American trade that it now practically monopolizes.

From Peru we returned to Panama, where the merchants and papers took hold of the project with a vim which promises excellent results. From Panama we went to Venezuela, and returned by way of Colombia to New Orleans. In this connection the impression has been gained, based on various rumors and reports, that the Illinois Central intend establishing a line of steamers between New Orleans and South American points. Such, however, is not the case, as the company are not chartered for that purpose. From an official source it may be stated that the company stand ready to co-operate with any or all

steamship lines running from New Orleans, believing this to be for the best mutual benefit of the public, the ocean lines and itself.

"One has only to consider a few figures as to comparative distances," said Mr. Powers, "to understand the natural advantages of the plan we propose. The distance from New York to Chicago is only 2 miles further than that from New Orleans to Chicago, while the sailing distance saved by vessels coming to New Orleans instead of New York is 675 miles from Aspinwall, Colombia; 850 miles from San Juan, Nicaragua; 860 miles from Truxillo, Honduras; 1095 miles from Progreso, Mexico; 1220 miles from Vera Cruz, Mexico; 465 miles from Cartagena, Colombia; 240 miles from Maracaibo, Venezuela; 115 miles from Caracas, Venezuela; 815 miles from Havana, Cuba; 150 miles from Port au Prince, Hayti, and 365 miles from Kingston, Jamaica.

A Fast Steam Launch.

The high-speed steam launch which Charles L. Seabury & Co. of Nyack, N. Y., have built was tried a few days since with very satisfactory results. The Allegra is 76 feet long, 10 feet beam, 3 feet 3 inches draft. She is a very rakish looking craft and has fine lines with plenty of freeboard. The hull is built of selected white oak frames, and has sister keelsons running on both sides full length; planking is selected Georgia pine and laid in two thicknesses of $\frac{1}{2}$ inch each, the top planking being laid so as to cover seam of under planking; copper fastenings are used throughout.

This launch was built to beat the time of the Long Island Railroad from vicinity of Oyster Bay to New York City, and will be used daily to carry owner and guests to and from country residence on the Sound to their business offices in this city. Her mean speed is 18 miles per hour, and under forced draft 20 miles can easily be obtained. The machinery consists of a Seabury safety water-tube boiler and a Seabury triple-expansion engine of 350 horse-power.

The accommodations for owner are good, as a saloon 22 feet long is at the bow of the vessel, connecting with the pilot house. This is built on trunk cabin style, with windows arranged to slide up and down, inclosing or making an open launch, as may be desired. In the after part of vessel is a cockpit, with seating room for a large party, and aft of cockpit is the crew's quarters, &c. There is also a galley and toilet rooms on board, so that comfort is not entirely sacrificed for speed. She is flush-deck type from the end of forward saloon, and a hand rail 3 feet high runs along the deck around the entire boat. No masts or spars of any kind are carried.

The following is an outline of her trial trips:

She was run over a measured course of 9 miles with and against the tide; the builder's contract calls for a speed of 18 miles per hour for two consecutive hours' running, and below is schedule of the time made by the Allegra:

First run of 9 miles was made in 32 minutes.
Second run of 9 miles was made in 26 $\frac{1}{2}$ minutes.
Third run of 9 miles was made in 30 minutes.
Fourth run of 9 miles was made in 28 $\frac{1}{2}$ minutes.

This makes a total of 116 $\frac{1}{2}$ minutes for a continuous run of 36 miles, or an average speed of 18 $\frac{5}{6}$ miles per hour.

The boat could have continued this speed for a much longer period, and on previous preliminary engineer's trips over 20 miles per hour was made under forced draft. She also made a run of six continuous hours and went at the rate of 17 miles per hour. The contract called for 16 miles per hour for six hours steady running. On her trial trips she was timed by Col. S. V. R. Cruger, for whom she was built, and by A. Cary Smith.

The Tallman Rod Reel and Conveyor.

F. G. Tallman, Hamilton Building, Pittsburgh, well known in connection with rod-mill practice, has arranged his rod reel to be used with a conveyor, thus doing away with the take offs and enabling the reels to be operated by one attendant only. In this new arrangement he uses the same device to throw the rod on the holder as before, shown in *The Iron Age*, March 26, 1891, but they are set away from the rolls and can be placed at

position, Fig. 2) by the action of another hydraulic cylinder, with rack and pinion, attached to the supporting shaft of the block, and the coil is deposited on the traveling conveyor, as shown in Fig. 2. The conveyor is traveling constantly and can be extended to any desired point. The conveyor shown is made of slats supported by sprocket chains. It can, however, be of any suitable construction, or the coils may be deposited in small iron cars, elevators or ordinary flat freight cars. The hydraulic valves operating the

from Canada reached £1,791,506, an increase of 14 per cent. Increases were general throughout the list.

Boston papers describe a hydraulic apparatus for removing deposits from ship channels which suck up 26-pound stones from the bed of the Charles River. This appliance is Mr. Foote's dredging machine. From it in the stream issues a long line of 18 or 22-inch tubes or pipes. These tubes are supported on a series of wooden

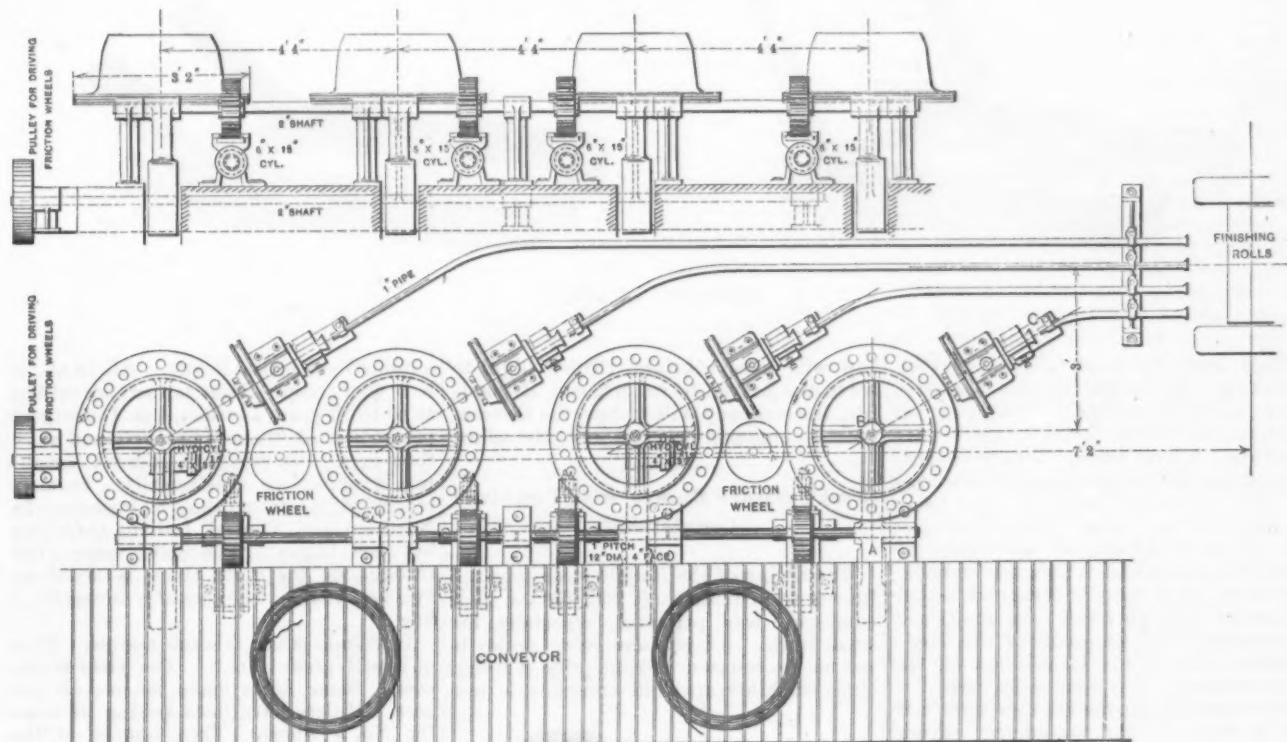


Fig. 1.—Plan and Elevation.

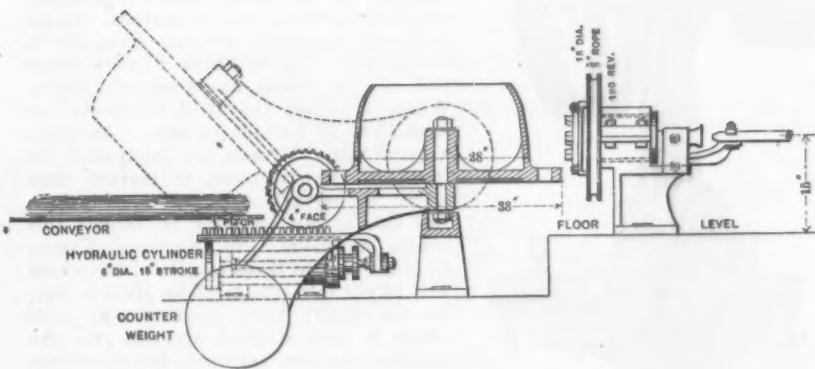


Fig. 2.—Cross Section.

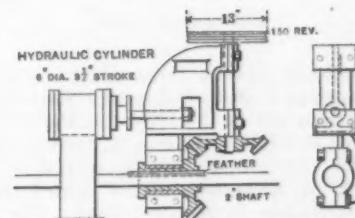


Fig. 3.—Side View of Friction Device.

THE TALLMAN WIRE ROD REEL AND CONVEYOR.

any convenient location. The holder resembles an ordinary wire-drawing block and has the edge of the plate turned with V friction grooves. When the coil is all thrown on the block and it becomes necessary to wind out the back end, the small friction wheel, Fig. 1, shown between the blocks is forced by the hydraulic cylinder, Fig. 3, into the rim of the block. The latter is thus revolved until the end is wound out and around it. This friction wheel is moved by turning the handle of a hydraulic valve which operates the cylinder and carriage, shown in Fig. 3. The friction wheel runs constantly and each wheel serves two blocks (see plan). After the coil is finished, the whole block with the coil is tipped over on its edge (see dotted

cylinders can be placed at any desirable and convenient point away from the heat, but arranged so that the operator can see the reels. All the attendant has to do is to turn two handles of the hydraulic valves for each coil. The arrangement is convenient and complete and least complicated and expensive. The principal dimensions are given in the accompanying drawings.

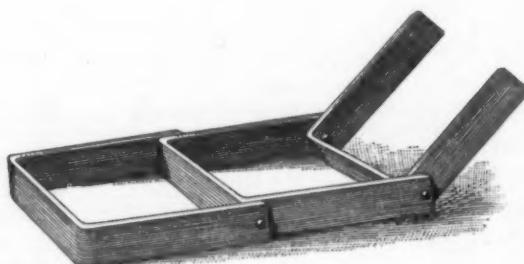
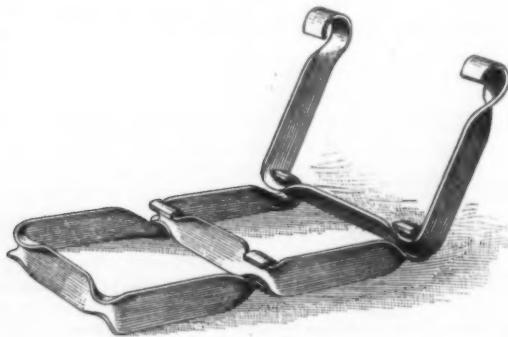
The British Board of Trade returns show an expanded Anglo Canadian trade. During the first six months of the current year the exports to Canada reached £2,386,090, an increase of 10½ per cent. compared with the same period in 1890. The imports

floats, from the dredger to the land, and thence stretch along on terra firma to the fillings. The dredger, by a mechanical device, cuts into and stirs up the bottom of the stream by means of powerful knives. While the knives are in operation and the water is in a high state of ebullition, a suction pump of enormous strength draws up the boiling water and shoots it with almost incredible force through the pipes. Gravel, sand, rock, mud and water are all sucked up and shot along the pipes into the filling. It is one constant stream of material through the tubes while the dredging apparatus is in operation. It is estimated that 20 per cent. of matter so driven through the pipes is solid, the other 80 per cent. water.

Carrier Chain.

The accompanying cuts illustrate the latest improvement made in carrier chains by the Link Belt Engineering Company of this city. The new chain is especially adapted for sawdust conveyors of large capacity and for slab and offal conveyors which run horizontally or at a slight

the rest of the way. The site selected for this new concern is on Stony Island avenue near Sixty-third street and almost opposite the central portion of Jackson Park. The company have an option on the ground and will purchase the same outright. It is thought the tower as far as the first and second balconies will be completed within a year. The globe at the



CARRIER CHAIN.

incline, and for small coal conveyors. The links are forged in one operation by a machine especially designed for the purpose. The manufacturers have succeeded in producing a light detachable chain at about one-half the cost of the old hand wrought, and being superior to the latter from the fact that it is detachable at any point by simply throwing back a link and unhooking, as shown in cut. Another advantage is the fact that no rivets are used, and consequently the annoyance of the chain breaking out at the rivet holes or the rivets wearing out is done away with.

The machine making the new style link has a capacity for producing several thousand links per day, each link being a counterpart of the other, and ready for use as soon as dropped from the forge.

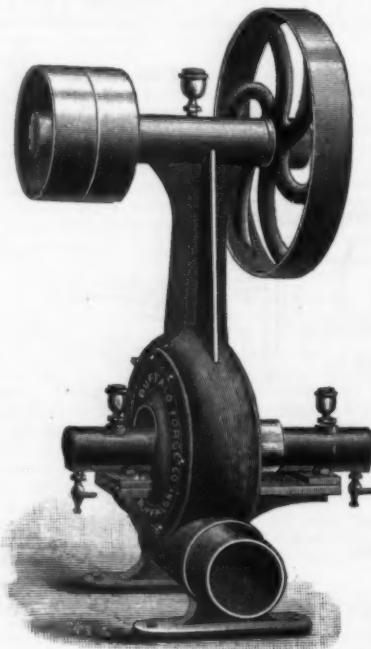
Chicago Scheme for a Tower and Hotel Combined.

Another gigantic hotel and tower project for the World's Columbian Exposition has been set on foot by the Park View Hotel and Tower Company, incorporated under the laws of Illinois, with a capital stock of \$800,000, all of which, it is claimed, has been subscribed. The directors of the company are E. W. Allen, Louis Shissler, W. H. Dougherty, J. B. Long and Architect Pearley Hale. The enterprise has been gradually assuming tangible form in the hands of these men for several months. The tower, which is to be built first, will be 533 feet high and constructed of steel throughout. It will have six balconies, two about 150 to 175 feet above the ground, and the rest higher up and about 100 feet apart, the topmost one being in the form of a huge globe. Three of the upper balconies will be inclosed with glass, while the rest will have simply open lattice work around them. The hotel is to occupy the space between the ground and the first balcony. Its proposed dimensions are 160 feet frontage by 125 feet in depth. Steel will also be the principal material used in the construction of the hotel. The building will be fire proof, with pressed brick exterior and stone trimmings. The tower will be reached by four elevators running from the ground to the first and second balconies. From there the floor of the big globe at the top will be reached by two elevators. It is the intention of the managers to charge a certain fee for admission to the first and second balconies. An additional fee will be charged for ascending

top will have a bright electric light to serve as a beacon to sailors, and, if possible, the company will induce the Government to maintain this feature of the affair.

Steel Pressure Blower with Combined Countershaft.

The design of the Buffalo steel pressure blower and countershaft cast on the shell complete, was perfected especially for small work. A tight and loose pulley is put on the counter, and the price at which these machines are sold complete is less



Steel Pressure Blower.

than a countershaft could be rigged up for so small a blower. But one belt is required in the case of so small a blower.

The Mormon refugees from Utah have several prosperous colonies in the Mexican States of Chihuahua and Sonora. Their products are readily sold in the mining camps, and on the completion of the North Mexican Pacific Railroad they will have the advantages of an unlimited market. Their principal city, named Diaz, after the Mexican president, is irrigated by mountain torrents, corresponding with the plan adopted in Salt Lake City.

Reports from the Wheat Fields.

In Michigan the harvesting of the winter wheat has been in progress the present week. The crop is excellent, both as to quantity and quality. Supplies of new wheat are being received now in Michigan from Ohio and Indiana for milling purposes. In Southern Ohio threshing to

a limited extent has begun. All in all, it is a good crop. Some farmers are selling at 80 to 85 cents a bushel, but the largest proportion of them will thresh and store their grain. In Southern Indiana threshing is going on satisfactorily. Farmers report yields from 18 to 30 bushels. In Northern and Central Indiana threshing has just begun. The yield varies, but throughout the State there is about an average yield. The quality, however, is fine.

In Illinois wheat is a fair sample. Most of it will grade No. 2. The yield is uneven. Some fields make 35 bushels per acre. Millers have been paying 82 cents for No. 2 wheat. Three-fourths of the wheat will be stacked, the farmers having confidence in future prices. Northern Missouri reports that 25 per cent. of the winter wheat is now in stack. The yield will average 18 bushels to the acre, of fair quality. In Southern Missouri probably one half the wheat crop is in stack. Large variations in yield, running from 10 to 30 bushels. In Southern Kansas about half of the wheat has gone into stack. Where threshed the yield is reported at from 15 to 25 bushels per acre. As usual, a great many farmers are compelled by force of circumstances to market their wheat at harvest, irrespective of prices. But this is not the case so largely this season as usual. In Northern Kansas from one-half to three-fourths of the wheat will be put into stack. The yield is fair, but the quality poor. In Kentucky little wheat is ever stacked, and this year the weather has been favorable for threshing. Taking the crop as a whole, it is probably the best one made since 1884. The price at country stations ranges from 75 to 80 cents. Taking the spring wheat situation as a whole, the crop prospects continue good, much better than a year ago. Except that seeded latest, wheat is in head, but has not yet begun to fill much.

The general manager of a furnace in the Pittsburgh district sends us the following data concerning the work done at his plant: "While our furnace is old, it has kept up with the times, excepting in regard to brick stoves, which is the only kind which we have not made. We have been in blast five weeks last Saturday, July 11, and have made in that time 4524 tons of 2268 pounds of metal, using 2356 $\frac{1}{2}$ tons of limestone (52 per cent.), 8413 $\frac{1}{2}$ tons or 1.86 tons to the ton of iron, 10,302,930 pounds of coke, 2277 pounds to the ton of iron made. Our furnace is 65 x 15 feet, with iron stoves of

the old style, two Robinson-Rea & Co. old style engines, which we need not run over 32 revolutions, with 3 to 4 pounds blast pressure and 80 to 90 pounds steam pressure. We use 60 per cent. Lake ore and 12½ per cent. Port Henry, and the balance native ore. We add only the scrap which the furnace makes itself."

The Bochkoltz Cinder Car.

BY J. B. NAU.

A good disposition of a cinder car was patented some time ago by Constant Bochkoltz of Weilerbach, Germany. The

and turn loosely upon the eccentrics, so that by a partial rotation of the shaft the eccentrics are made to raise or lower slightly the frame and platform.

The rotation of the shaft n is effected by means of a cog wheel, E, secured thereto and which gears with a worm, x, upon a transverse countershaft, y, extending out to either side of the truck A. Each end of the shaft is adapted to receive a detachable crank.

The platform P pivotally mounted upon the horizontal shaft n is upheld in a horizontal position by means of four vertical standards, C, mounted on two other parallel shafts r journaled in boxes. The ar-

position P_1 , thus causing the residue of the cinder which may remain upon the platform P to be discharged.

Whenever it is preferred to remove the cinder in solid shape the slag is allowed to cool off, the box F is then removed by a suitable crane, the car with the cinder cake on it is taken to the dumping ground, the platform P is raised by means of the mechanical devices, the standards C are swung outside on the side where the dumping has to be done, the platform is tilted over to the position P_2 , and the cinder cake will slide off through its proper weight.

After being tilted the platform may be righted again by hand or preferably by moving the clutch block H into engagement with the bearing h so as to lock the shaft n to said bearing, and then turning shaft by means of the crank attached to the outer end of the shaft y . The platform once righted, the standards C are again thrown up to their vertical position, the latch rods D are hooked to them and the platform is again immovably supported.

This car, which is being introduced in the modern German blast furnace, is especially well adapted to such places where the difference of level between the cinder notch of the furnace and the tracks in the yard is about 10 feet. In most of the new blast furnace plants built this difference is generally greater, and in some modern works, where the pig iron is taken in liquid

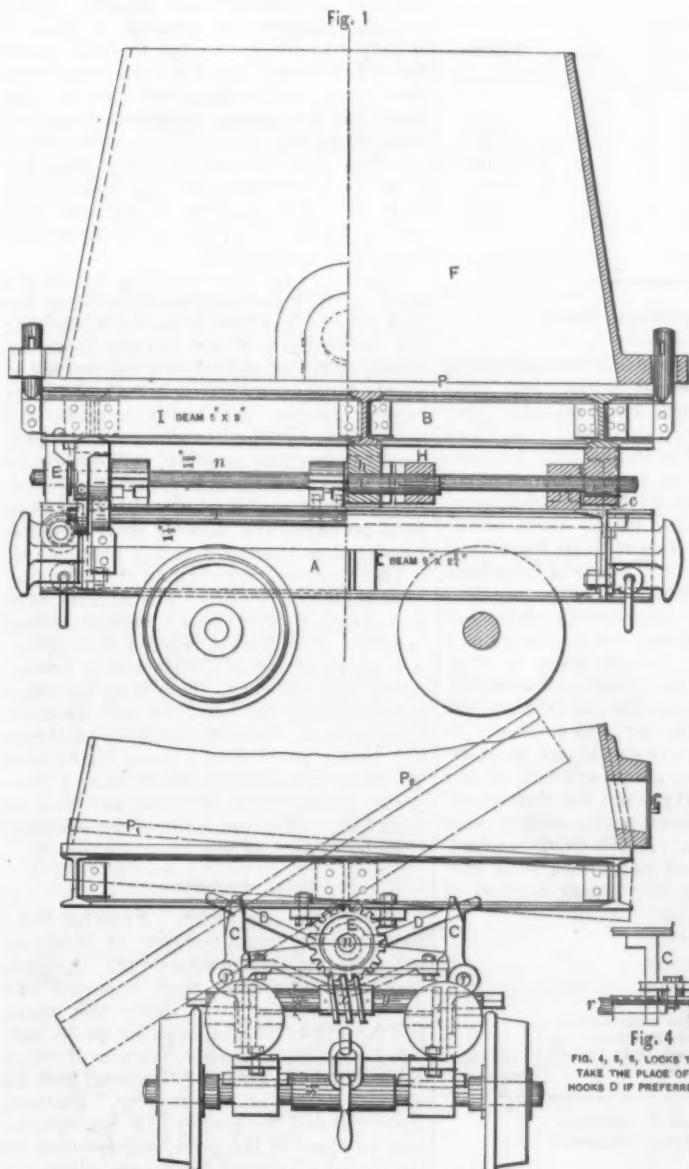


Fig. 4
Fig. 5
Fig. 6

FIG. 4, 5, 6, LOOK TO
TAKE THE PLACE OF
HOOKS D IF PREFERRED.

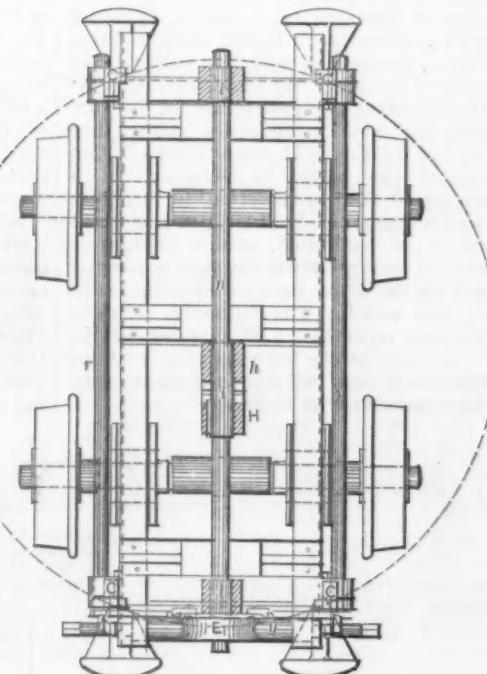


Fig. 3

THE BOCHKOLTZ CINDER CAR.

car has been arranged in such a manner that the cinder can either be tapped off in its liquid state or the chilled cinder can be dumped easily. It consists principally of three parts, viz.: 1, a lower rectangular four-wheel iron railroad truck, A, mounted and provided with the customary bumpers and couplings; 2, an iron body frame, B, supporting a platform, P, forming the bottom of a detachable cinder box, F, and, 3, a mechanical device for the manipulation of the body frame B.

This manipulation is obtained in the following manner: The lower truck A carries three elevated journal boxes, in which are journaled a longitudinal shaft n , with three eccentrics, i . These eccentrics support three bearings, h , attached to the frame B, which bearings encircle

arrangement allows each pair of standards to be made to swing out together from under the platform P by a rotation of the shaft to which they are connected. These standards are kept in place in an upright position by movable latch rods or by some other means in the shape of locks, as indicated in detail on the drawing.

The top F of the car is made detachable from the platform P so as to admit of being lifted off therefrom, and is secured in place by means of lugs and pins. This top is provided with a tap hole closed by a suitable door.

When it is intended to pour the cinder liquid, the tap hole is opened and the cinder flows out toward the end, the platform P is raised by means of the mechanical device and allowed to take the inclined

state at the blast furnace to be carried to the converting works, it is as high as 18 to 19 feet. The total height of a 10-ton car for standard gauge is about 9 feet.

The wreck of the bark Midway, which struck on the Hen and Chickens shoals 34 years ago, while bound from London to Philadelphia, has been found. She was laden with speleiter, pig iron, speigel iron, steel scrap and lead, a cargo worth thousands of dollars.

There were 769,300 gross tons of shipping under construction at the shipyards of Great Britain on June 30, 1891, against 739,914 gross tons at the corresponding date last year.

Desulphurizing Basic Pig.

The famous Hoerde Works, the pioneers in the basic Bessemer process, have been experimenting for some time with a method of great promise, the aim of which is to eliminate from liquid basic pig the sulphur which it contains. It is well known that the greatest enemy of basic steel is sulphur, so that a lowering of that objectionable constituent may make available for basic steel making metal which otherwise must be condemned.

When commercial ferrous sulphide containing about 36 per cent. of sulphur is melted together with ferromanganese, the sulphur separates as a slag in the form of manganous sulphide, leaving the iron free from sulphur. Experiments made by the Hoerde Works have shown that fluid pig metal from the furnace containing sulphur might by the addition of highly heated liquid manganiferous iron be purified so as to contain only 0.01 per cent. of sulphur. The manganese slag contained as much as 20 per cent. of sulphur and as much as 50 per cent. and upward of manganese. When this manganese slag is mixed with limestone and subjected to a reducing smelting a manganiferous iron is obtained, which may again be utilized for desulphurizing. In order to carry out the operation successfully it is necessary to keep the bath liquid for a sufficient time, either by its own or by externally applied heat, so that the slag may separate. The following is the method pursued: The pig iron, either taken direct from the blast furnace or remelted in a cupola, is mixed with a quantity of liquid manganiferous iron to correspond with the sulphur contents of the pig. We understand that the Hoerde Works propose to use for this purpose the well-known Jones mixer, first used at the Edgar Thomson Works. They control the patent in Germany. It is suggested that in practice, in order to obtain a larger body of slag, so that its removal is facilitated, several charges be worked successively in the same apparatus, and for the same purpose metallic oxides be also added. The following series of analyses reported by P. Tunner in the "Oesterreichische Zeitschrift für Berg und Huetten Wesen" show the results of operations carried out at Hoerde:

The following table gives results of the analysis of steel, taking charges in succession.

No.	Sulphur.	No.	Sulphur.
292	0.033	299	0.025
293	0.031	300	0.034
294	0.042	301	0.029
295	0.026	302	0.031
296	0.017	303	0.034
297	0.024	304	0.042
298	0.025	305	0.049

The following are analyses taken at random:

No.	Sulphur.	No.	Sulphur.
7744	0.034	7773	0.034
7746	0.038	7776	0.021
7748	0.027	7777	0.054
7750	0.035	7784	0.036
7752	0.027	8180	0.028
7754	0.037	8190	0.026
7770	0.025	8200	0.026

San Francisco News.

There is a good deal now said about the molders' strike, but it is all talk. The great establishments keep on the even tenor of their way; the small ones do as best they may. The strike could not have come at a better time for the foundrymen, as this has been on all hands a dull year. The foundries would, in any event, strike or no strike, have been without their usual complement of work. It would have been a quiet season. When, therefore, we hear of establishments not having their full complement of molders, we may be assured that they employ just as many as they would have done had there been no strike.

All these strikes and boycotts have had their effect in drawing more closely to each other the various employers, more especially the various manufacturers of our city. Unless all signs fail the Employers' Federation will soon be something more than a mere name. Meetings of a representative committee have been held during the week, and the proper method of

Desulphurizing at Hoerde.

Date.	Sulphur contents of iron cast into mixed 10 to 11 ton charge.		Sulphur contents of basic Bessemer pig charge, 10 to 11 ton charge.		Sulphur contents of finished steel.
	No. furnace.	Sulphur contents.	Number of charge.	Sulphur contents.	
August 14, 1890	II	0.276	247	0.050	0.030
" 23, "	IV	0.137	493	0.044	0.027
September 5, 1890	II	1.022	932	0.043	0.034
" 8, "	II	1.02	806	0.049	0.057
" 9, "	I	1.53	929	0.043	0.041
" 10, "	II	0.07	940	Not determ.	0.041
" 10, "	II	0.783	941	"	0.045
" 11, "	I	0.443	958	0.043	0.023
" 11, "	II	0.271	963	0.056	0.045
" 12, "	IV	0.430	1,118	0.038	0.022
" 12, "	II	0.389	1,153	0.047	0.027
" 16, "	II	1.20	178	0.054	0.025
" 16, "	IV	0.680	?	0.054	0.032
" 19, "	IV	0.352	240	0.034	0.018
" 19,	IV	0.427	323	0.039	0.042

In the beginning of the work pig iron low in sulphur was produced. Then, in order to test the process, high-sulphur pig was purposely made, the figures given for the 5th to the 10th of September showing the result. After that the pig iron was produced without any reference whatever to the sulphur contents. The table given in the above contains only those charges for which an examination of the pig from the furnace was made.

organization is now being debated with earnestness, but as yet the movement is being carried on quietly, the names of those at work not being generally known, and it is under debate whether it is advisable to remove any of the veil of secrecy which has up to the present enveloped most of the proceedings. Many think it would be better to imitate the system of the federated trades and have each business organized in itself, these various or-

ganizations to send delegates to a central council. In the opinion of your correspondent this would be the best plan that could be adopted. It could further be generally adopted throughout the United States. The grand movement for the organization of capital must follow the same lines as the organization of labor. Even now the plan may have been formulated in this city.

The imports by rail continue to be heavy—for the past three weeks 154 cars. Of these 31 cars each were machinery and iron, 19 cars of steel, 17 cars of hardware, 16 cars of wire, 15 cars of stoves, 13 cars of pipe, 6 cars of safes, 2 cars of chain, 2 cars of wire cable and 1 car each of agricultural implements and reapers. Thus though business at present is dull, it is very evident that a large trade is looked for. The Iredale has 500 tons scrap iron; the County of Peebles, 200 tons of pig iron; the Avonmore, 16,627 packages of steel wire; the A. J. Fuller, 200 tons of pig iron and 100 tons of muck bars, besides large quantities of bar and bundle iron, &c. The pig-iron market has been dull, at \$23 to \$25 to arrive. The Oceanic had 750 tons scrap iron.

Imports of tin plate continue very large; most of it, however, coming to hand before July 1. The Iredale had 19,974 boxes; the Goldenhorn, 31,290 boxes; the Acapulco, 50 boxes, making a total by sea of 51,114 boxes. By rail we have had 19,124 boxes. Despite the heavy imports, the market has continued to advance and is now quotable at \$6.60 to \$6.70. The stock on hand is exceedingly heavy, and it is doubtful whether the market will be able to keep up unless the packing shall be much heavier than there is now any prospect of.

The Monowai, arriving on the 9th, had 2445 ingots of pig tin. The imports have been nearly double those for the same time in 1890. The market is quiet at 21 cents. A large shipment of California tin has recently gone forward. This State has large and important deposits, but they have not been worked, the circumstances hitherto not being propitious. From the Cajalco Tin Mines in San Bernardino County higher grade concentrates are obtained than in Cornwall. The cost of fuel for smelting is \$3.97 per ton of ore.

Duty on Patented Articles—A. Featherstone, manufacturer of bicycles at Chicago, representing the English makers of pneumatic tires, imported 300 of these articles. On every tire there is a royalty of 10 shillings, or \$2.50, and this royalty Appraiser Pierson decided constituted a part of the cost, and he assessed a duty on the royalty. Featherstone claimed the royalty did not constitute any part of the price and appealed to the Board of General Appraisers which has sustained Mr Pierson. This decision establishes an important principle in the imposition of duties on patented articles imported from abroad carrying a royalty to the manufacturers.

A press dispatch from Duluth, dated the 17th inst., says: "The Vanderbilt lines will do something toward developing the iron mines of Northern Minnesota. Representatives of the Lake Shore and Michigan Southern, Milwaukee, Lake Shore and Western, the Canadian Pacific and Port Arthur and Duluth and Western are in Port Arthur arranging the terms and making a contract for the construction of the Port Arthur road through to Duluth. The Union Iron Company, with these roads, own 7000 acres of iron lands, from which they intend to ship ore. The Lake Shore will put on a line of boats to carry the ore from Duluth to Cleveland. The mineral lands were recently purchased by these companies."

The Luehrig Coal-Washing Plant.

Continental colliery owners and furnace managers have for a generation been forced to meet the question of producing good fuel and good coke from coals too high in ash and in sulphur to be directly available for use. Among those who were first to raise coal washing to the dignity of a specialty was C. Luehrig, whose plants are

The plant treats the coal as it arrives from the mine, and delivers it automatically sorted and washed into railroad cars ready for market. It is operating upon the whole output of three large pits, amounting to about 1500 tons per day. The coal is brought from these pits to the washing plant by means of wire ropes, one of the pits being at a considerable distance from it.

round holes. The dry separation has a building for itself, and all the machinery connected with it is driven by a small steam engine independently of the washing plant proper, so that the loading of the lump coal may go on while the washing plant stands still. The bin into which the dross from the screens falls is sufficiently large to hold about 100 tons of coal. The lump coal passes on to picking and

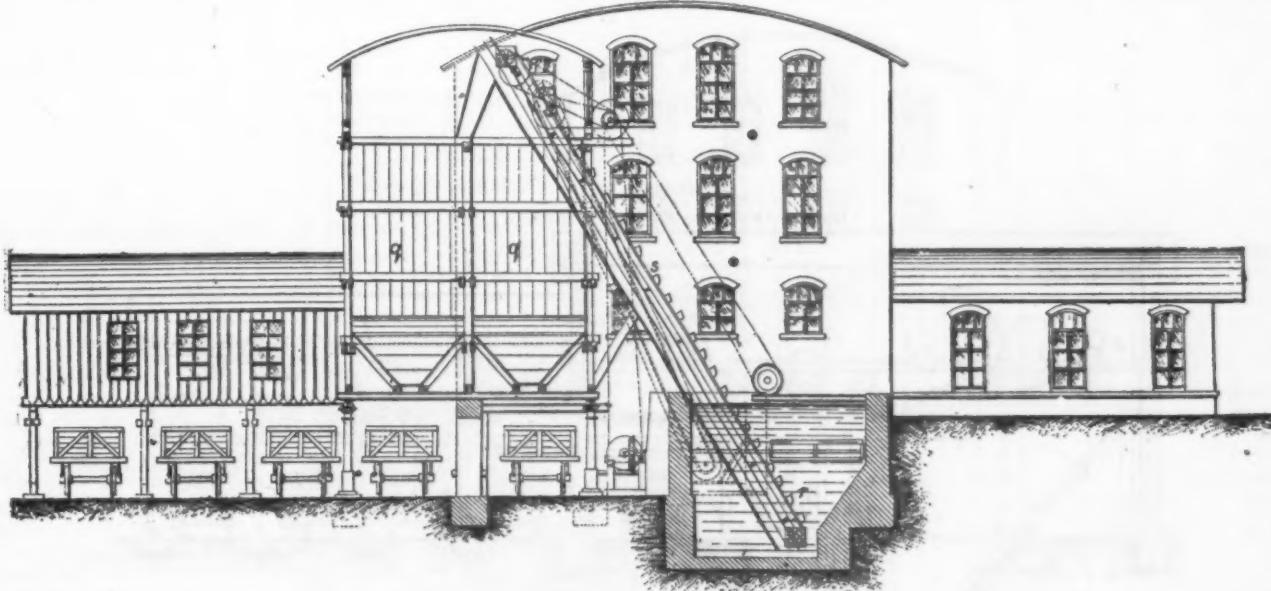


Fig. 1.—Elevation and Section A B.

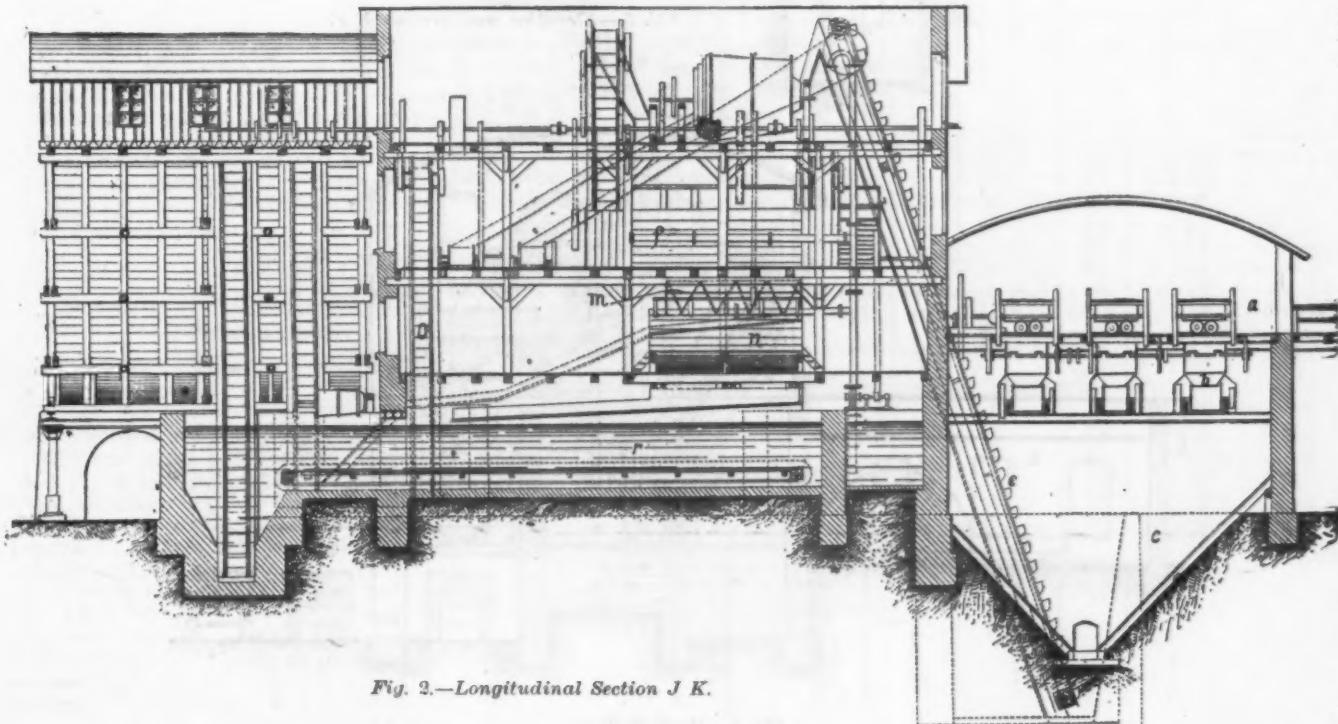


Fig. 2.—Longitudinal Section J K.

THE LUEHRIG COAL-WASHING PLANT.

employed at dozens of large collieries in Germany, Austria, Belgium and France. More recently his system has been adopted in England, the largest plant having been built by the well known Scotch iron and steel makers, Merry & Cuninghame of Glasgow, at their collieries. The results were so satisfactory that this firm acquired the business, under the style of the Luehrig Coal and Ore Dressing Appliances, Limited, while Alexander Cuninghame, Boreel Building, New York, is introducing it into this country. The accompanying illustrations show the plant erected at one of the collieries of Merry & Cuninghame.

The plant consists of a screening plant, of the coal-washing plant proper, and of plant for handling automatically the finest smudge contained in the water used in washing, so as to obviate the necessity for settling ponds, and finally the loading plant. Throughout the whole process the principal aim is to avoid breakage by rough handling of the coal, and to make the action automatic.

The cars brought by the rope drives to the platform *a*, Figs. 2, 3 and 5, of the screening, are discharged by means of tips of an improved construction on to the vibrating screens *b* with about 2-inch

loading tables of an improved construction, which deliver the coal into railroad cars standing on different sidings for each class of coal, Figs. 3 and 5.

These picking and loading tables, instead of being constructed of plates, as is usual, are formed of round rods with spaces between so as to allow of the passage of the small coal, which is unavoidably produced by picking out the dirt and by chipping off the shale adhering to lumps of otherwise good coal. This small coal is conveyed back for washing to the bunker *c*, Fig. 2, by the lower returning portion of the picking table. The single links of

this improved picking table run on L-iron guides, being provided with cast-iron rollers to reduce friction. Every fourth link is fitted with a kind of shoe, principally consisting of a vertical plate extending across the table and about 8 inches high. The delivery end of the table consists of an adjustable arm which can be lowered and lifted so as to prevent the coal falling into the cars and breaking thereby. Over this adjustable arm the aforementioned shoes also travel and prevent the coal from sliding

tons may thus be added at an almost nominal cost to the available stocks of coal.

An elevator, *e* (Figs. 2 and 3), lifts the slate from the bunker to the top floor of the wash house and delivers it here into a revolving sizing drum constructed of perforated steel plates, and consisting of several shells to divide the slate into several sizes, nuts, beans, peas and dust. A previous proper sizing, as effected by this revolving drum, facilitates greatly the subsequent washing, besides producing sev-

The clean nut and pea coal is delivered over drainers *g* (Fig. 5) into hoppers *h* (Fig. 4), ready to be loaded into cars. The intergrown product is conveyed by a worm working in front of the jigs to an elevator at the side of the washing boxes, to be lifted and further broken up by rolls *i* (Fig. 4) on the top floor of the building. These rolls are 16 inches wide and 29 $\frac{1}{2}$ inches in diameter. The broken product is re-washed on one of the nut jigs, and a clean coal obtained from

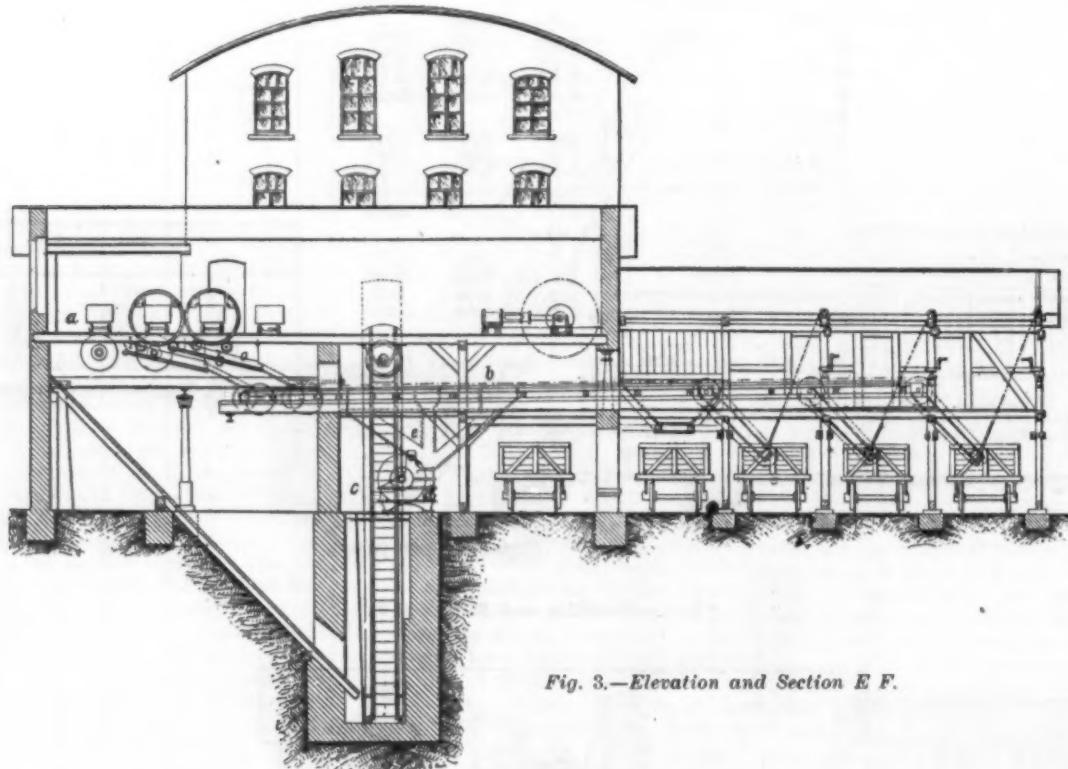


Fig. 3.—Elevation and Section E F.

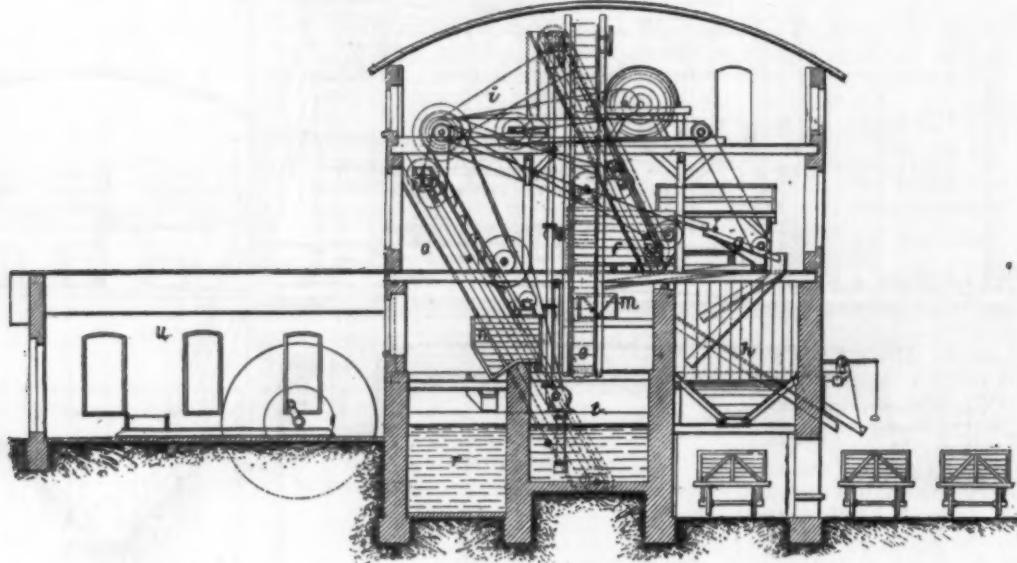


Fig. 4.—Cross Section.

THE LUEHRIG COAL-WASHING PLANT.

down the incline of the arm. The larger pieces of shale or stone and intergrown coal are separated by hand on these picking tables. The stones are thrown into shutes and brought to the waste bin in the usual way, while the dirty pieces of coal are thrown by shutes to a coal breaker *d*, Figs. 3 and 5, which breaks these pieces up in order to win by the subsequent washing process all the coal adhering to the dirt. These crushed pieces of dirty coal are delivered into the slate bin. Coal hitherto left underground, or sold as an inferior class, is made by this method into good marketable coal, and millions of

tonnage may thus be added at an almost nominal cost to the available stocks of coal. The different sizes above $\frac{1}{2}$ inch or $\frac{1}{4}$ inch pass through spouts into separate nut coal jiggers, *f* (Figs. 2, 4 and 5). These machines are specially designed to deal effectively with large quantities and with the pieces of coal intergrown with shale. To win all this coal these nut washers separate the several sizes of nuts into three classes.

1. Clean washed nut coal.
2. A coal intergrown with shale or brasses, &c.
3. Clean dirt.

The refuse from these machines is discharged by the elevator *k* (Fig. 5) into a channel leading into the refuse pit. The fine coal under $\frac{1}{4}$ inch size from the revolving screen passes with the overflow water from the nut coal jigs into a grader, *m*, Fig. 2, a series of pyramidally-shaped boxes, *m*, into which the current of water deposits the coal in different sizes according to its gradually decreasing velocity. These boxes supply, through apertures in the bottoms of the pyramids, the Luehrig fine-coal jigs *n*. These jigs are provided with feldspar beds, of which Mr. Luehrig is the original in-

ventor, introducing them as early as 1867 in his coal-washing plant. The dirt separates in these washers through a bed of feldspar to the bottom of the machine, and is from there delivered by spouts into the refuse pit. An elevator, *o*, Fig. 5, raises the refuse collecting here from all machines and discharges the drained refuse into tubs to be brought to the waste heap.

This patent sludge recovery apparatus *r*, Figs. 1, 2 and 4, works in a long pit extending underneath the fine coal jig floor, and consists in the main of a traveling creeper. It works very slowly, and continuously recovers the finest coal dust as soon as it is settling down. An elevator, *s*, raises the collected fine coal to the hopper *q*, Fig. 2, where it either may be

centrifugal pump *t* delivers the water through a water-pipe system to the several machines. The whole plant is lighted by electricity, the engine and dynamo for that plant being placed in the engine house *u*.

In Yorkshire the Denaby Main Colliery Company, Limited, have erected a plant on the Luehrig system, principally for the

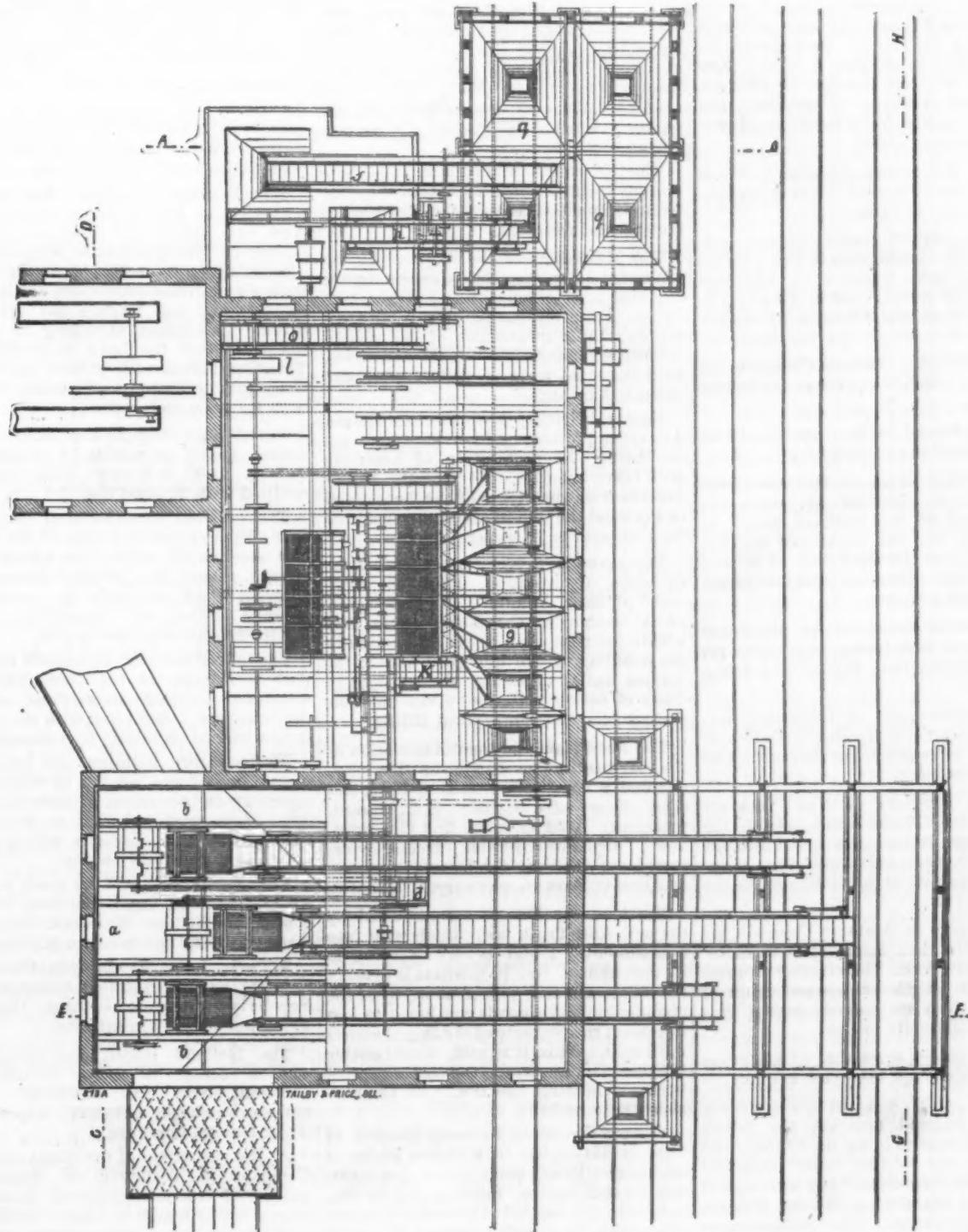


Fig. 5.—Plan.

THE LUEHRIG COAL-WASHING PLANT.

The clean coal from all the fine coal jigs is carried with the overflowing water from these machines to a small draining drum, made of copper sheets with very small holes, which separates the pearl coal from the finest coal. The pearls are lifted by an elevator, *p*, into large storage hoppers *q*, Figs. 1 and 5, for fine coal. The finest coal from this small drum passes with the dirty water into Luehrig's sludge recovery apparatus, which, as already mentioned, forms a very notable improvement in the treatment of coal by washing.

stored separately, or mixed with the pearls, according to the purpose for which it is intended to be used.

In this manner all the settling material is at once removed, and the constantly fresh gathering dirty water from the various washing machines can, for that reason, deposit quickly its suspended heavier particles. At the other end of the sludge pit the water is clear enough that the overflow of it into the clear water tank may be used again for washing in the plant with a small supply of fresh water. The

washing of coal to be coked, so as to enable them to produce a high class coke from a mixture of their very dirty hard and soft smudge. The result attained is about 4 per cent. of ash in the coke, which is of an excellent structure. The loss of pure coal in the refuse is only $\frac{1}{4}$ per cent., or practically speaking none whatever.

The recovery of the fine coal is a point which is of particular importance to coke makers, since experience has taught that it is often the fine, most readily crushed part of the coal which is the most valuable

part in the production of blast furnace coke. Particularly in the South, the necessity of improving the quality of furnace coke is most apparent. By reduction of the ash the furnace plants themselves will work more regularly, yielding a more uniform product and producing an iron lower in silicon for basic steel work.

THE WEEK.

The Kansas Farmers' Alliance will hold a convention at Topeka, 20th prox., for the purpose of organizing a co-operative association for the control of all farm products and exchange of supplies. But the farmers profess to be hostile to all sorts of trusts and monopolies.

Some of the copper mines in Michigan have been forced to close down on account of the scarcity of water.

An official report concerning the condition of the workingman in Brussels says the average daily wages is 3f. 14c., and that of 19,281 of this class in the city 10,-462 have occasional recourse to public charity.

The Pennington Balloon Company has "gone up," which is more than can be said of the ship.

Minneapolis and St. Paul each claim to have a population of 200,000.

The frightful crash of the new ferry boat, John G. McCullough, when the pilot's signal to the engineer failed to operate and she ran uncheked into the bridge, suggests the unwise of relying upon a single means of communication with the engine room.

A list is published of 50 prominent business men who insure their lives for amounts ranging from \$100,000 to \$500,000.

The manufacturers of harvesting machines in Iowa are compelled to decline receiving any more orders, as they cannot be filled this season.

The city directory of New York for 1891 contains 379,971 names, and as the usual average is four and a half inhabitants for each name this would seem to indicate an increase of population of 85,500 during the year.

Grasshoppers in Southern Colorado are driving cattle and sheep before them toward Beaver Creek. Their further progress depends on length of legs and depth of water, but they are less dangerous than the Rocky Mountain locust.

Western papers agree that wheat prices will be high enough this year without "a corner."

Chicago railroad men say the failure of every attempt to bring the Chicago and Alton and one or two other important lines into the "combine" is a sure sign of the coming dissolution of the Western Freight Association. The postponement of a consideration of Jay Gould's pet scheme for the establishment of joint agencies is spoken of as an adroit way of avoiding direct antagonism.

Destitute refugees from Oklahoma are flocking into Texas.

A strong corporation has been formed in Kansas City to build mains and works for the supply of cold air throughout the city, the first of the kind in this country.

One of the Russian provinces asks the Government for a loan of \$5,000,000 to supply breadstuffs and food to the suffering peasantry.

The president of the London Board of Trade stated in the British House of Commons that the temporary stoppage of

the tin plate works in Wales, involving the throwing of 20,000 men out of work, was caused by overproduction.

In pursuance of the plan to obtain control of the petroleum trade of Europe the Standard Oil Company have succeeded, after much opposition, in obtaining a ten years' lease of sites for the erection of tanks in Amsterdam.

According to the official statement of exports of mineral oils from principal ports of the United States for the fiscal year just closed, issued by the Bureau of Statistics, the amount has for the first time exceeded 700,000,000 gallons, the total being given at 704,387,000 gallons, valued at \$51,318,454, compared with 659,365,000 gallons, valued at \$50,854,000, for the preceding fiscal year.

The Goverment authorities in Tahiti are talking about establishing a steamship line to San Francisco, as they feel the need of closer communication.

The uncertainty of the West in dealing with the silver question is shown by the fact that a State convention in Ohio, held by one of the leading political parties, demands "the reinstatement of the constitutional standard of both gold and silver, with the equal right of each to free and unlimited coinage."

Europe is letting down the bars against American products. In France a decree rescinding the prohibition of American pork takes immediate effect, if the Senate concurs with the action of the house, and in Portugal the import duty on wheat has been reduced to 7 reis per kilogram.

The seven new cruisers comprising the squadron of evolution, under the command of Rear Admiral John G. Walker, are at anchor in the North River, and within the next two weeks instruction in the handling of the big guns and in the various duties of sailors aboard ships in times of action will be given on their decks to the new State Naval Militia.

The Food Manufacturers' Association at the Mercantile Exchange in this city, adopted a constitution and by-laws, and these officers were elected: E. C. Hazard, president; Read Gordon, first vice-president; Alphonse Biardot, second vice-president; William G. Dean, treasurer, and Daniel Browne, secretary.

Merchants in Illinois are perplexed by the new Anti-Trust law, which went into operation July 1 and is very sweeping in its provisions. One proposition is to make the wholesaler and jobber an agent of the manufacturer, the goods consigned to him to remain the property of the manufacturer until sold. This, it is said, would enable the manufacturer to fix the selling price without violating the law. No commission was to be fixed.

General Prophete, formerly Minister of War in Hayti, has been chosen leader of an insurrectionary party whose headquarters are at Kingston, Jamaica, and is said to be strongly supported in men and money wherewith to restore Legitime to power. Business meanwhile is depending on the result.

Americans who own foreign-built vessels and steam yachts will hereafter be required to pay 50 cents "light money" per registered ton every time they enter a port in the United States, in addition to the tonnage duty imposed on any cargo they may carry.

The growth of the Patent Office Bureau illustrates the wonderful advance of the nation in science and useful arts. In 1790 three patents were issued; 100 years later the number was 26,292, and the applications for patents were 41,048. The total number of patents granted during the hundred years is 453,944, an average of nearly 13 patents for every day in the year.

Money sharks who are eager to extort usurious rates of interest from poverty-stricken individuals who fall into their power received a fitting rebuke from Judge McAdam a few days ago. He decided in a case of this kind that the claim could not be enforced, as the so-called "loan and guarantee company" consisted of a single individual, and had no actual existence.

The new plate glass works nearly finished at Irwin, Pa., cost \$850,000 and is one of the largest in existence. The power to run the polishing and grinding machines is supplied by 19 double upright engines.

Consul Baker at Buenos Ayres notifies Americans that they should not go to that country in hopes of bettering their condition. There are now more departures from that country than arrivals.

New Englanders complain that they are compelled to pay 20 per cent. more than New York has to pay on all freight from Chicago. This question of alleged unfair discrimination has been before the Interstate Commerce Commission at least 13 months, and no decision has yet been given. This means, according to a Boston paper, that the Lake Shore and New York Central railroads control the trade. Consequently Boston has lost the market both for grain and cotton.

Japan, according to the latest official census, has a population of 40,000,000. This is 10,000,000 more than she was credited with 20 years ago.

The growing importance of Galveston as a shipping port is a sign of the times. Her receipts of cotton this season have already passed the 1,000,000 bales mark, an event which was made the occasion of a public jubilee, and a steamship is loading for Europe with new wheat.

The official statistics of imports into the port of Havana for the year 1890 show a marked increase over those of the previous year. Commerce with this island is now carried on mostly by steamers.

Thirteen-story buildings are becoming plenty in Chicago, several of which each represent an investment of about \$1,000,000. It is predicted that in five years structures of this character will line the streets in the business section.

A second attempt will be made to erect a lighthouse off Cape Hatteras, but the contractors believe the work cannot be made successful for less than \$2,000,000.

A Trades Labor Assembly in Chicago is in arms against President Gompers, and Powderly's organ at Scranton, the *Free Press*, has turned against him.

The Holland House, just completed, on the corner of Fifth avenue and Thirtieth street, cost \$2,000,000. It is ten stories high and built entirely of white Indiana limestone.

At the coal mines of the Knoxville Iron Company in Tennessee on Monday, a number of convicts employed there were driven out by a mob of miners in defiance of a detachment of State militia, and the Governor ordered out a large force for their protection.

The indications are that the Federal Government has decided to grapple with the powerful trusts in Missouri, which the State courts have been unable to crush. United States District Attorney George D. Reynolds is preparing to carry out the instructions contained in a letter from Attorney General Miller, in which he proposes to "prosecute vigorously" any infractions of the law.

The low price of cotton, the lowest for 30 years, and the depressed condition of cotton manufacture in England, must for some time to come operate unfavorably to industries in the South.

The Iron Age

New York, Thursday, July 23, 1891.

DAVID WILLIAMS, - - - PUBLISHER AND PROPRIETOR.
CHAS. KIRCHHOFF, - - - EDITOR.
GEO. W. COPE, - - - ASSOCIATE EDITOR, CHICAGO.
RICHARD R. WILLIAMS, - - - HARDWARE EDITOR.
JOHN S. KING, - - - BUSINESS MANAGER.

American Postal Steamship Lines.

The initial step has been taken in furtherance of a definite plan for the establishment of American steamship mail lines to foreign ports, as provided for in the legislation of Congress. The Postmaster General in a public advertisement invites proposals of a comprehensive character, the bids solicited covering not simply new service, but for the extension or apparent duplication of service already established. By this means a wider range of proposals may be obtained, from which to select the most advantageous. All the vessels of the four classes specified must be of iron and steel with a single exception, wooden steamships being allowed only in vessels of the lowest grade. The United States will contract to pay for the outward voyage only at rates not to exceed \$4 per mile for ships of the first class, of not less than 8000 tons and 20 knots per hour; \$2 for ships of the second class, of not less than 5000 tons and 16 knots per hour; \$1 per mile for ships of the third class, of not less than 2500 tons and 14 knots per hour, and two-thirds of \$1 per mile for vessels of the fourth class, of not less than 1500 tons and 12 knots per hour. In view of the fact that two or three years may pass before the principal part of the service called for can be put in operation in American-built ships, it is conjectured in some quarters that the next Congress may possibly amend the law so as to permit an American registry to be given to a few foreign-built ships constructed in accordance with specifications of the law, so as to begin carrying the mail upon some of the more important routes at an earlier day. A concession of the character referred to would be strangely inconsistent with the original purpose of the bill providing for postal subsidies, which was to create a strictly American marine for the transportation of the American mails.

Interest most naturally centers on the European routes, where the most obstinate rivalry must be expected. It is explained that those who obtain contracts for carrying the United States mails on their outward voyages "will have the right" to arrange for the transportation of the mails of those countries to the United States. How this desirable end can be attained may hereafter raise some questions of international importance. The Inman Line, it has been repeatedly asserted without contradiction, is prepared to build ships in this country, and as the majority of the stockholders are Americans, movements in that quarter will be

particularly observed. The International Navigation Company, who claim to be strictly American, are said to control not only the Inman Line, but the Red Star Line to the Netherlands, and the steamships of the American Steamship Company. The latter already fly the American flag, but none of the ships now running possess the requisite speed.

The proprietors of steamship lines evince a lively interest in the new measures incorporated in the Postal Subsidy bill. The Pacific Mail and Brazil Mail Steamship Companies have both been heard from indirectly respecting their plans, and while they speak of promised benefits to be derived from the bill, are not sanguine that the proposals of the Postmaster General will bring out many bids. The Brazil line has already built two steamships in anticipation of the new postal scheme, and expects to shorten the running time between New York and Rio so much that direct British lines to South American ports will encounter a sharp rivalry. We learn, however, that there are now contracts pending for six large ocean steamers. Three will probably go to a new shipyard identified with the purchasing interest, two are to ply between New Orleans and Liverpool, and one is to be put into the Pacific Coast trade. All are to be large and fast vessels, some of them rivaling the most famous ships afloat.

The Basic Bessemer Process.

We have repeatedly discussed in *The Iron Age* the possibilities of the basic process of steel making in the South. The technical points at issue have touched particularly the difficulties of utilizing raw material yielding in the furnace a pig iron high in silicon and in sulphur. The necessities of the case have led to a serious consideration of the duplex process, while the absence of a large supply of scrap has given the admirers of direct processes an opportunity to urge their claims for consideration. We believe that in all the newspaper comment on the subject the mistake has been made to speak of the South as an entity, when, as a matter of fact, the conditions vary widely in different sections. The Birmingham district has a cheap raw material, but it is not well adapted to the basic process. Whether the cost of difficult technical operations in steel manufacture will more than counterbalance low cost of pig iron remains to be seen. Chattanooga has dearer iron, but it is better suited to its purpose. Southwest Virginia makes pig ideally low in sulphur and in silicon, but has so little phosphorus that it must look to the basic open hearth, and is then forced to face the scrap problem or experiment with some direct process hampered with lean ores.

German experts possessing extensive experience seem to be less frightened at high silicon than metallurgists are, on this side of the Atlantic. We understand that 0.75 per cent. is a usual figure, for the basic

Bessemer converter, and does not offer very great difficulties. Now even sulphur seems to be losing its terrors. We print elsewhere a brief statement concerning the new desulphurizing process introduced at Hoerde, which promises to extend very considerably the range of raw material suitable for the basic Bessemer process. It will be observed that it is combined with the method of mixing direct blast furnace metal introduced by the late Captain Jones of Edgar Thomson. The published accounts of the Hoerde experiments do not, unfortunately, specify the silicon contents of the pig iron used—a matter which may have some bearing on the success of the process and the recovery of the manganese.

Weekly Wages Payments in Illinois.

The professional workingmen in Illinois, through whose efforts the weekly wages payment law was enacted, appear to have overshot the mark. Their primary object, it is understood, was to hit the great coal-mining corporations who maintained company stores. An act was passed prohibiting the sale of merchandise by these companies, and the law requiring weekly payment of wages was a natural sequence, as it was argued that wages would have to be paid more frequently than once a month, in order that the miners could pay cash for their domestic supplies. The advocates of this measure, however, clearly discerned the fact that it was not wise to single out a special class of employers, and therefore they included manufacturing companies, commercial companies, street railroads and gas and water companies. The result of this widening of the scope of the law, as originally contemplated, has been the creation of a formidable opposition to its enforcement. The large corporations engaged in manufacturing and mining will not submit without a struggle to the burden imposed on them of making up weekly pay rolls. Test cases will soon be brought up in the courts, on application of the working men whose employers refuse to pay them weekly, and a vigorous effort will be made by the latter to have the act declared unconstitutional. It will easily be understood that the best legal talent will be employed by the companies and that they will carry the contest to the courts of last resort.

The corporations interested claim that unjust discrimination has been made against them in the law. Farmers and steam railroads are exempted from its provisions, and no notice is taken of individuals or firms employing large numbers of men. An individual or a firm can pay monthly or quarterly or yearly, and commit no offense, while a corporation employing even a smaller number of men is liable to a penalty unless it pays its workmen weekly. An individual or a firm with a small pay roll could as easily pay weekly as monthly, so far as making up labor accounts are concerned. An act requiring weekly payments would therefore work less hardship with small firms than in the case of large corporations employing

thousands of men, whose clerical force would have to be considerably increased to meet the requirements of a weekly pay day. The mere matter of paying out wages also involves a great deal of time and labor when several thousand men are employed. A large Illinois corporation with 5000 men on its pay roll, which has hitherto paid its men semi-monthly, states that five days' time are required to make out the wages accounts and four days are occupied in paying the men. To change the system to weekly payments means, in this case, much additional labor and considerably more time. This corporation has a large part of its force on piece work, which creates extra labor in the pay department; but there are very few manufacturing establishments in which there is not a great deal of piece or quantity work. Increased clerical expenses in such cases means increased cost, which is a most unwelcome feature in these days of fierce competition.

Legislation of this kind, in order to be truly equitable, should not only be general and include all kinds of employers, but it should be national, and apply to all employers in every State. The labor agitators who secure political power in a particular State, and dream of establishing a workingman's paradise within its limited boundaries, commit a grievous error. The manufacturers or mining operators in adjoining States, in which legislation has not been tinged by political workingmen, are given an advantage in lower costs of production, which they are not slow to use, and a workingman's paradise would soon be abandoned by workingmen themselves, if their opportunities for work were cut off because their employers were no longer able to compete with outside concerns. It is not claimed, of course, as it would be absurd to do so, that a change to weekly payments would in itself be fraught with such serious consequences. The principle involved, however, and which the Illinois corporations propose to resist, is the interference with matters which are wholly the subject of arrangement between employers and employed. Once started, there can be no end to legislative interference until employers are driven out of business.

The builders of steel ships on the lakes are reported to be strongly of the impression that the revival of American shipping interests will be largely due to the progress they are making in naval architecture. The contracts which they have successfully filled for ocean vessels have shown that they are able to meet the requirements of ocean service, and more contracts are going their way. It is possible that the lake shipbuilders entertain this impression, but it is more than likely that they do not, and the statement probably originated with some enthusiastic inland reporter. The lake shipbuilders have certainly shown remarkable enterprise in introducing the best known types of machinery, both for constructing and operating vessels on the inland seas, and they have often been pressed with work when

their brethren on the sea coast lacked orders, but as "one swallow does not make a summer," neither does the building of a few vessels for ocean service point to the creation of a great business in that particular line so far from the seaboard. The coast shipyards, both on the Atlantic and on the Pacific, have not stood still while the lake shipyards grew. The naval vessels which have been built on both oceans in the past three or four years show in their size, equipment and speed what our coast builders can do when they have an opportunity. We have reason to be justly proud of both the coast and lake builders.

Electric Heating and Forging.

Electricians and metallurgists have been working a good deal lately in the direction of heating iron and steel by the electric current. The former, we are inclined to believe, have shown a tendency in the wrong direction. They seem to believe that a great future lies in supplanting the heating furnace or the forge fire. They evidently believe that it will be much cheaper to pass a current of sufficient intensity and volume through a bar of iron or steel than to incur the outlays for fuel and labor and submit to the waste by oxidation characteristic of the methods now generally adopted. It may be granted that where cheap water power is available electric heating may prove more economical. But we apprehend that the localities where this is true are few, that in the majority of cases the advantage secured will be more than counterbalanced by the high freights on raw material and finished product incident to inaccessibility. In this country a good deal of preliminary work has been done by the Electrical Forging Company of Boston, who are now experimenting with a spike machine. From Europe come reports of work in another direction which seems to us to promise a more lucrative field, because the advantages secured are more manifest. According to a communication sent by M. Rateau to the Société de l'Industrie Minérale, electric heating has been used for two years in the gun shops at St. Etienne for annealing the springs used in repeating rifles. Rapid and cheaper work is claimed, but to us the most important advantage secured seems to be the facility with which exceptional uniformity in heating can be attained. It will be readily understood how the use of an electric current by securing absolute uniformity of temperature in small articles to be forged, annealed, or hardened, can make manufacturers independent of skilled labor. This is the direction in which electric heating should first develop.

Our reports from the West indicate a distinctly better feeling in iron and steel circles. Prices have not advanced, but there is a better demand for just those products which have for a long time been least wanted, such as steel rails, track fastenings, car irons, machinery and general manufacturing equipment. The

anticipated rush for material of all kinds has not yet developed, but the influence of the large crop of wheat just harvested is being felt in a way that must soon result in a greatly quickened current of trade through all channels.

In Transit Through Canada.

The new Treasury regulations regarding shipments in bond through Canada are very moderate in their scope, and will not embarrass the movement of merchandise over the Canadian roads at all. In fact, goods exported to Asia or Europe by way of the Canadian railroads and goods passing through Canada in transit from one point in the United States to another point are not affected at all by the regulations. This is welcome news to Boston and New England, which have to depend upon the competitive routes through Canada to secure fair treatment from the trunk lines, and whose export trade in manufactured cotton is rapidly increasing.

It is the import trade by way of Vancouver and Montreal that will be affected by the new regulations. The danger has been in the substituting of merchandise subject to a higher rate of duty for the goods originally placed in the car in the consul's presence. There has been liability also that the cars would enter the United States and be unloaded at their destination without the knowledge of the local custom officers. No case of the substitution of goods has been discovered in the case of cars in transit between points in the United States. The United States officer, whose duty it is to seal the car on foreign territory, must carefully examine the contents of the car and compare it with the manifest, instead of accepting the manifest as sufficient evidence of the contents. Both the frontier custom officer and the officers at point of destination will receive a copy of the manifest.

The basis of the entry at the border will be the manifest accompanying the car, and it will not be necessary to unload the merchandise unless the Collector has valid reasons for the inspection of the contents of the car; but if the consular seals have been tampered with before reaching the frontier the car will be detained, and entry will be required, as in the case of ordinary importations. These regulations are not oppressive.

Bids for furnishing the engine, driving plant, &c., of the supplementary cable system, which will be put in operation when the bridge terminals are enlarged according to the plans of the recent board of experts, were opened on Monday at a special meeting of the bridge trustees. There were three bidders—the Southwark Foundry and Machine Company, William Wright & Co. and Robert Pool, Sons and Co. The first named offered to build the new engine for \$15,950 and remove the old engine for \$600. The second named firm offered to build the new engine for \$11,195 and remove the old engine for \$900. The bids for the driving plant and friction clutches were at so much per pound, and will have to be figured out in detail.

Counsel for the Lehigh Valley Railroad Company, on Saturday, filed in the United States Circuit Court an answer to the proceedings brought against the corporation for disobeying an order made by the Interstate Commerce Commission in the Coxe Bros. & Co.'s coal freight discrimination suit. In the answer the right of the commission, under the act to regulate commerce, to fix the rates of transportation which shall be charged by railroad corporations is denied.

Washington News.

(From Our Regular Correspondent.)

WASHINGTON, D. C., July 20, 1891.

The Secretary of War will order an early meeting of the Ordnance Board to consider the bids opened last Monday for the manufacture of the 8, 10 and 12 inch breech-loading steel guns, and to report upon them preparatory to the award of the contract. The Ordnance Board consists of Major-General Commanding Schofield; Colonel Abbot, United States Engineers; Colonel Slossom, United States Artillery; Colonel Mordacai, United States Ordnance, and ex-Representative Byron M. Cutcheon, cavalry member.

The general figures in regard to the bids have appeared in *The Iron Age*. The following is the official exhibit of the bids, classified in detail for submission to the Board of Ordnance, and upon which their recommendation will be based, and will afford to the great establishments and metallurgical experts in general some idea of this \$4,000,000 contract:

were awarded to the Berlin Iron Bridge Company of East Berlin, Conn. The buildings will be 230 x 455 feet, and will be composed of five sheds, supported by steel columns; the trusses will also be of steel, and the roof to be of corrugated iron. The lower shed is sufficiently strong to carry a traveling train. All the transfer cars will be run on iron and steel beams figured for a load of 32 pounds to the factor of four. The building will be thoroughly trussed for a wind pressure of 50 pounds to the square foot. The company are under contract to have the building completed before December 1, and work will be commenced in 50 days. The contract price is reported about \$58,000. The machinery for the smelter is to be furnished by Fraser & Chalmers.

The Steelton Trouble.

The Amalgamated scale was presented to the Pennsylvania Steel Works last week, but was rejected by the officers of the company. We have a telegram from E. C. Felton, superintendent, in which he

No. 1 Blooming Mill—20 to 25 per cent. advance.

Blooming Mill No. 2—25 per cent. advance.

Universal Mill—20 to 25 per cent.

Thirteenth Train Merchant Mill require about the same advance in wages and conditions as twentieth mill.

Merchant Mill Twenty-Inch Train—The advance in wages asked is from 20 to 25 per cent. over the present rates. Attached to the scale there are articles of agreement as to the conditions under which the work is to be done, which number 30.

Billet Mill—30-inch train, 25 per cent. advance.

No. 4 Hammer—25 per cent. advance.

Shifting engines in yard—Require 30 per cent. advance, and an additional man on each shifter.

General List.—Frog, switch and signal department, 20 per cent. advance; foundry, 20 per cent. advance; blacksmith shop, 20 per cent. advance; machine shop, 20 per cent. advance; pattern shop, 20 per cent. advance.

Blast Furnaces.—Twenty per cent. advance.

The *Telegraph* representative was informed that with very few exceptions none of the names mentioned in these several papers are now on the rolls of the company, and some have not been for months.

In addition to the several mill scales, which are made out on as many sheets or pieces of paper, the committee presented a supplementary agreement which reads as follows:

STEELTON, July 15, 1891.—Memorandum of agreement between the Pennsylvania Steel Company and their employees, to take effect July 22, 1891.

We, the undersigned committee, representing the Amalgamated Association of Iron and Steel Workers of the eighth district, do present to your earnest consideration the following scale of prices to govern the several departments for one year, beginning July 22, 1891, and ending June 30, 1892. When the selling price of rails is \$30 per ton, when rails advance the men to receive a proportionate advance in the wages; when rails decline to receive a proportionate decrease in the wages, the same to go into effect quarterly, on the 1st of January, April, July and October. It is also agreed upon that the men receive no reduction below the prices herein specified, as the same is based on the manufacturer's card of \$30 per ton for steel rails, being the lowest limit upon which the same shall be manufactured. This shall apply to all other departments passing the scale upon selling prices of the material manufactured in the respective departments. The association also requests the reinstatement of all the men discharged by the company for being members of the Amalgamated Association of Iron and Steel Workers.

PERSONAL.

Stephen H. Harrington, president of the Harrington & King Perforating Company of Chicago, accompanied by his family, is now making an extended tour of Eastern summer resorts.

The German Government has recognized the services of Alexander Thielen, as the representative of the German ironmasters during their visit to the United States last fall, by conferring upon him the order of the Red Eagle.

O. von Kraewel, manager of the Rheinische Stahlwerke, Ruhrort, is visiting the steel works in this country.

John H. Barr has accepted a call to Sibley College, Cornell University, Ithaca, N. Y.

Joseph Hartshorne, superintendent of the basic steel plant of the Pottstown Iron Company, Stowe, Pa., has sailed for Europe to visit the Hoerde and Witkowitz works. He expects to return toward the end of August.

James Lord, secretary of the Pennsylvania Bolt and Nut Works, sailed for Europe from New York, Saturday, July 11.

H. M. Curry and J. G. A. Leishman of Carnegie, Phipps & Co. have returned from Europe, where they spent several weeks recuperating.

A seamless steel boat made from one piece of metal by hydraulic pressure is among the latest foreign products.

Abstract of Proposals for 8-inch, 10-inch and 12-inch Steel Guns Received Under Advertisement of May 8, 1891; Opened at Ordnance Office July 13, 1891.

TWENTY-FIVE 8-INCH GUNS.

	Cost per type gun.	Time of delivery from time of contract.	Cost per service gun.	Time delivery.	Total cost one type and 24 service guns.
		Yrs. Mos.		Yrs. Mos.	
Midvale Steel Company	\$22,028.00	3 0	\$22,028.00	8 0	\$560,700.00
South Boston Iron Works	51,642.00	2 0	20,695.00	5 0	548,322.00
Bethlehem Iron Company—					
Schedule A	43,898.35	1 6	19,728.88	4 0	517,296.20
Schedule B	45,418.73	1 8	19,068.72	4 8	501,780.24
Schedule C	42,655.36	1 10	18,845.56	5 4	486,304.00
Schedule D	42,035.96	2 0	17,865.96	6 0	470,819.00
Schedule E	41,416.50	2 0	17,246.55	6 8	455,338.75

FIFTY 10-INCH GUNS.

Midvale Steel Company	\$51,880.00	3 0	\$51,880.00	8 0	\$2,554,000.00
South Boston Iron Works	103,910.00	2 5	47,700.00	11 3	2,441,210.00
Bethlehem Iron Company—					
Schedule A	78,967.28	1 11	40,929.28	5 10	2,064,472.00
Schedule B	77,141.89	2 1	39,633.89	6 8	2,019,202.52
Schedule C	76,346.78	2 3	38,338.78	7 6	1,954,947.00
Schedule D	75,050.69	2 5	37,425.53	8 4	1,900,142.50
Schedule E	75,755.58	2 5	35,747.58	9 3%	1,825,387.00

TWENTY-FIVE 12-INCH GUNS.

Midvale Steel Company	\$88,592.00	3 0	\$88,592.00	8 0	2,214,800.00
South Boston Iron Works	180,000.00	2 11	79,500.00	10 0	2,068,000.00
Bethlehem Iron Company—					
Schedule A	113,951.75	2 2	61,846.25	5 7	1,506,273.75
Schedule B	112,107.40	2 5	60,008.15	6 3%	1,552,183.00
Schedule C	110,235.34	2 8	58,159.84	7 0%	1,506,101.50
Schedule D	108,422.06	2 9	56,316.53	7 9	1,460,018.75
Schedule E	106,568.72	2 9	54,473.22	8 0	1,413,920.00

Aggregate Cost, Including the Cost of Ammunition for the Test of the Type and the Proof of the Service Guns, of 25 8-inch, 50 10-inch and 25 12-inch Guns.

Midvale Steel Company	\$5,359,500.00
South Boston Iron Works	5,057,532.00
Bethlehem Iron Company—	
Schedule A	4,200,012.00
Schedule B	4,073,174.75
Schedule C	3,947,352.50
Schedule D	3,821,980.35
Schedule E	3,694,646.75

The ordnance authorities have about completed their preparations for the test of the first 12-inch breech-loading army gun at Sandy Hook. The test may take place next week, as the changes in the gun carriage and manufacture of powder of a certain quality required have been carried out. The test of this gun will be watched with profound interest by military and scientific men in the United States and the powers of the Old World.

The Great Falls *Leader* says the contract for the new steel buildings of the Boston and Montana Mining Company at that place

states that the steel plant is closed indefinitely. The Harrisburg *Telegraph* presents the following:

In visiting the steel company's office, our representative was permitted to examine the numerous papers presented to the management, from which the following extracts are taken:

Bessemer Mill—Twenty per cent. advance on tonnage men; 25 per cent. hour men.

Open Hearth Furnaces—Twenty-five per cent. advance, with an increase of force, which would bring up the advance to about 50 per cent. over present rates. The mill to be run in accordance with the rules of the association; the mill committee to decide what a man's work is.

Rail Mill—20 per cent. advance

The Chicago Furniture Exhibition.

Quite an interesting display of furniture is being made in Chicago in the old Exposition Building this month by the furniture manufacturers of the Northwest. Prominent in the display are metal bedsteads made by American companies, whose productions are now rapidly displacing the bedsteads of foreign manufacture, which formerly had the entire field to themselves.

The Adams & Westlake Company of Chicago have 22 bedsteads in their display. They represent in their line all grades of goods, from designs showing the most intricate ornamentation, costing \$285, down to small plain bedsteads costing \$13.65. The finest construction they show is named the Imperial bed. This is finished in the style of the Italian Renaissance. It is made with deep swell molding on the sides and ends, with openwork design, which has first been cast and then chased by hand and afterward very highly polished. Samples are shown of bedsteads made for the Holland House, New York city, of which 300 are to be furnished. All the brass work in the bedsteads made by the Adams & Westlake Company is solid. The mounts are cast, not spun. No iron cased tubes are used. While the display is a magnificent one, it has not been gotten up especially for exhibition purposes, but was taken from stock in the factory, and shows exactly what character of work is turned out regularly by the company. They have in addition to full brass-finished bedsteads a number of others in different designs. A bedstead with Japanese silver posts and spindles presents a very quaint effect. They also show some with an oxidized finish. The company's display is surrounded by a fine railing made of polished brass tubing, which adds greatly to its attractiveness.

The Buffalo Brass and Iron Bedstead Company of Buffalo, N. Y., show some 40 samples of their brass and iron bedsteads. They make a specialty of an enamel finish in black and white, which is exceedingly well done and presents a very handsome appearance in connection with brass trimmings. Their iron bedsteads range in price from \$6 up to \$46, while their brass bedsteads run up to \$150. This company's finest brass bedsteads have pearl panels and pearl covered spindles for decorations, which add very greatly to the handsome appearance of the furniture.

A small display of iron bedsteads is shown by the Ames & Frost Company of Chicago. Their product is intended mainly for public institutions, such as hospitals, asylums and places of similar character. These bedsteads are made of tubing, with iron or steel angle side and end rails. Enormous quantities of these bedsteads are now made, consuming quite a considerable amount of iron and steel material.

The contract for laying the Third avenue cable line in this city is in the exclusive hands of William Wharton, Jr., & Co. of Philadelphia. This firm built the Market street cable line in that city, and have built numerous other lines in many Western cities. They own their rolling mills, a Bessemer steel plant, &c., and furnish all the material, as well as performing all the work of construction. The contract calls for nearly 8 miles of double track, making with the switches at the uptown terminus about 16 miles in all. The track work proper is completed from 100th street to 116th street, and in the course of a week or two work will be begun at the upper end of the Bowery.

The sixtieth meeting of the American Institute of Mining Engineers will be held at Glen Summit, Pa., beginning October 6.

Fire at Springfield Iron Works.

A press dispatch from Springfield, Ill., dated July 19, states that about 4 o'clock that morning fire was discovered in the plate mill of the Springfield Iron Company. The mill is a large frame structure. The flames spread rapidly, the accumulation of dry coal dust on the woodwork proving almost as inflammable as gunpowder, and notwithstanding the excellent fire service at the mills the flames gained such headway that it was found impossible to save the building. It so happened that the fire broke out in the part of the mill where the main water supply was located, and the heat soon burst the pipe, causing much delay in procuring water. This building was entirely destroyed and the lighter portion of the machinery ruined. The heavier machinery was not so seriously damaged, but until it has been more carefully examined the exact extent of the loss cannot be determined.

The destruction of the plate mill will not interfere with the business or work of the Springfield Iron Company, as this part of the plant was leased to the Carbon Iron Company of Pittsburgh and was operated by the latter. This concern has the contract to furnish steel plates for the armored cruiser No. 6, now under construction at the Navy Yard at San Francisco. The plates were shipped from Springfield to San Francisco, and were being used as fast as they could be turned out, and this fire will therefore delay work on the new cruiser until arrangements are made to continue the manufacture of steel plates. The resident representative of the Carbon Iron Company has not yet been informed what arrangements his company will make.

Commerce of Venezuela.—The Bureau of the American Republics has received the returns of the commerce of Venezuela for the last fiscal year. The revenues of the Government during the year amounted to \$8,538,072, which is an increase of \$893,489 over the previous year. Of these receipts \$6,448,349 were derived from import dues. The exports for the year reached a total of \$19,450,067. The principal articles of export and their values were: Coffee, \$13,716,367; cocoa, \$1,798,080; virgin and placer gold and residuum, \$1,713,000; hides, \$468,777; deer and goat skins, \$442,477; cattle, \$226,644; gold and silver coin, \$103,998; caoutchouc, \$52,900; copper, \$35,300; timber, \$26,348, and copaiba, \$23,166. The imports into the port of La Guayra for the same period were of the value of \$10,164,415, being greater by \$803,829 than those of the preceding year.

Some of the most prominent iron founders are introducing a new and simple practice in order to secure stronger castings, the method in question consisting in placing thin sheets of wrought iron in the center of the mold previous to the operation of casting. This method was first resorted to, it appears, in the casting of thin plates for the ovens of cooking stoves, it being found that a sheet of thin iron in the center of a $\frac{1}{4}$ -inch oven plate rendered it practically unbreakable by fire. This result has led to the process being now applied to the casting of large iron pipes, a core of sheet iron imparting additional strength and lessening the liability to fracture. As an evidence of the additional strength capable of being imparted by this means, it is stated that a plate of iron, $\frac{1}{4}$ inch thick, cast with a perforated sheet of 27 wire gauge wrought iron in the center, possessed six times the strength of a similar cast plate with no core; the $\frac{1}{4}$ -inch plate had the strength of a plate 1 inch thick.

MANUFACTURING.

Iron and Steel.

We are informed that the report that the Cambria Iron Company of Johnstown, Pa., had disposed of their company stores to a party of capitalists for \$1,000,000 is entirely without foundation. No such sale has been made or is contemplated by the company at present.

The annual meeting of the stockholders of the Sterling Steel Company of Pittsburgh, Pa., which was to have been held in their office in the Westinghouse Building in that city last week, has been postponed until the present week. Owing to the fact that a large majority of the stockholders of the firm reside in the East it was decided to hold the meeting and election of officers in New York City.

Smith Bros. & Co., proprietors of the La Belle Steel Works, in Allegheny, Pa., will make application in the near future for a charter of incorporation for the La Belle Steel Company. The incorporators are Andrew D. Smith, Hugh D. Smith, Frank B. Smith, George W. Motherly and Charles S. Crawford. For some years this firm have also operated an extensive cutlery works at Bridgeport, Conn. They are about to remove this plant to Allegheny, Pa., on a site adjacent to their steel plant. In removing their cutlery works to Allegheny the firm will also make a change in name for that department, assuming the form of a corporation. On August 3 application will be made for a charter for the corporation to be known as the La Belle Cutlery Company. That department will occupy the buildings formerly occupied by the McKinney Mfg. Company, which are situated at the corner of Ridge avenue and Rebecca street, immediately beside their steel plant. It is believed that the removing of the cutlery department to Allegheny will be of material advantage to the firm, as all the steel consumed in making the cutlery is made by the firm and the heavy freight charges incurred in transporting the steel from Allegheny to Bridgeport will, of course, be saved when the removal takes place.

The muck bar and plate mills of the Roanoke, Va., Iron Company are about completed. The former will be 332 x 76 feet in size, and the latter 304 x 84 feet.

The Green Ridge Iron Works, Scranton, Pa., have resumed with non-union men in the place of striking union men.

The repair shops of the Watts Steel and Iron Syndicate, Limited, Middlesborough, Ky., are nearly completed.

After being idle several years, the rolling mill at Covington, Ky., formerly operated under the name of the Swift's Iron and Steel Works, has started up. The works have undergone a thorough overhauling and extensive repairs have been made. The muck mill has been taken out and replaced with a sheet mill, this making three sheet mills in all. The blast furnace will not be operated.

At a recent meeting of the Knoxville (Tenn.) Chamber of Commerce, M. P. Conley, patentee of the Conley direct process of steel manufacture, explained his process at length, and stated, among other things, that a steel plant having a capacity of 300 tons a day by the Conley process could be built and equipped at an expenditure of \$500,000.

The Central Forge Company, at Whitestone, Long Island, have decided to grant their men participation in profits on a per capita distribution plan.

E. J. Bird, Jr., of Ironton, Ohio, will erect a muck bar mill and nail works at Low Moor, Va. The works will have a capacity of 30 tons of muck bar per day and 3000 kegs of cut and wire nails per week, and will cost \$125,000.

It is reported that the town property of the Sheffield Land, Iron and Coal Company, and the three furnaces of the Alabama Iron and Railway Company, at Sheffield, Ala., have been bought by an English syndicate for \$3,000,000.

The Pennsylvania Bolt and Nut Company of Lebanon, Pa., started up the 10-inch mill of their department on the morning of the 18th inst. with a full complement of men, all of whom are non-union with the exception of two. This firm have emphatically stated that they will not sign the Amalgamated Association scale under any circumstances. The 8-inch mill of this firm is also being operated with non-union men, and the 16-inch mill will also be operated by non-union men as soon as repairs now being made are completed. The Amalgamated Association recently called out the bolt makers in the employ of this firm, but their places were immediately taken by non-union men.

The furnaces of the Pottsville Iron and Steel Company, at Pottsville, Pa., have been blown out.

At a meeting of the stockholders of the Scottdale Iron and Steel Company, held at Scottdale, Pa., on Friday, the 17th inst., the following officers were elected: P. S. Loucks, president; J. B. Stauffer, treasurer, and Clark Grazier, secretary. A Board of Directors was also elected, as follows: P. S. Loucks, J. B. Stauffer, Clark Grazier, W. N. Taylor, P. Campbell, A. S. Livergood and A. H. Herbert. This firm manufacture muck bar and sheet iron and have a capacity for turning out about 8000 tons of muck bar and 7000 tons of sheet iron annually. They report plenty of orders on hand and their plant is being operated to its full capacity.

The Johnston Steel Street Rail Company, Johnstown, Pa., have just commenced the erection of a large machine shop measuring 366 x 50 feet. They have plenty of orders on hand and are running full time in all departments.

The Pittsburgh Bridge Company of Pittsburgh have commenced shipment of iron for the roof of the court house now under construction at Red Oak, Iowa. The firm report plenty of orders on their books to keep them running for some time to come.

The Juniata Rolling Mill at Hollidaysburg, Pa., formerly operated under lease by McLanahan, Smith & Co., Limited, which has been idle since the assignment of that firm, was sold on Wednesday, July 15. The sale was conducted by Jos. Fichtner, receiver, and the plant was purchased by Marlin Bell and M. F. Leason for \$30,525, attorneys for the second mortgage bondholders. It is stated that the bondholders will either operate the works themselves or sell to outside capitalists who are reported anxious to get control of the plant.

The Oil City Tube Company, of Oil City, Pa., have declined the proposition made to them by the citizens of that place to raise a fund of \$10,000, payable to the company in three annual payments, in consideration of their keeping their present plant at that place, and adding a large lap-weld plant. The firm have decided to erect a new plant at Sharon, Pa., and work on it will be commenced in a short time. The present butt-weld plant at Oil City will be kept in operation at that place for the present at least, but may ultimately be removed to Sharon and operated in connection with the lap-weld department.

The Solid Ingots Company of Newark, N. J., have made arrangements to introduce their reversing process in the steel works of the La Belle Steel Company, Howe, Brown & Co., and the Detroit Steel and Spring Company.

The Canonsburg Iron and Steel Company of Pittsburgh, whose plant is located at Canonsburg, Pa., are making some extensive improvements and additions with a view of largely increasing their output of iron and steel sheets. They have just placed an order with the Leechburg Foundry and Machine Company of Pittsburgh for a 23-inch sheet mill with necessary sheet furnaces and appliances.

Buenavista Iron Company, manufacturers of pig iron at Buenavista, recently shipped in one week 1380 tons of pig iron, which was the largest shipment ever made by them in any similar period. The shipments were made principally to Eastern States.

The 30 puddling furnaces in the plant of the Elba Iron and Bolt Company, at Pittsburgh recently purchased by the Oil Well Supply Company, Limited, of that city, were put in operation last week. The purchasers of the plant have made a number of extensive improvements and greatly enlarged the capacity of the plant. Iron buildings have supplanted frame structures, and the puddling furnaces have been rebuilt and changed to use fuel gas, instead of coal or natural gas.

Fire in the Worth Iron Works, Coatesville, Pa., caused a loss to building and contents of \$8000.

The submarine cable department of J. A. Roebling's Sons' wire mill, at Trenton, was damaged by fire to the extent of \$40,000.

Machinery.

The Phillips Engine Company have been incorporated at Camden, N. J., with a paid up capital of \$100,000, for the purpose of manufacturing and selling engines and other machinery.

The Roberts Machine Company's works and the plant of the Collegeville Ice Mfg. Company, at Collegeville, Pa., have been destroyed by fire, at a loss of \$25,000.

The Hobbs Mfg. Company, at Hudson, Mass., manufacturers of wood-working and boot and shoe machinery, have made an assignment. Liabilities, \$30,000.

The Russellville, Ky., iron foundry will be put in operation at an early date.

Leonard & Cornell, boiler makers, of Jackson, Mich., contemplate removing their works to Elkhart, Ind.

Ulrich Eberhardt is building a one-story brick foundry, 83 x 50 feet, at Newark, N. J.

The Biesline Brick Machine Works, Foundry and Wagon Factory, at Chaska, Minn., have been damaged by fire to the extent of \$10,000.

The Bates Iron and Steel Company, whose foundry at South Chicago was burned last fall, have decided to locate their foundry at Waukegan, Ill., on land owned by the Washburn & Moen Mfg. Company.

The stockholders of the Co-operative Foundry Company, Somerset, R. I., have decided to give up business and sell the plant, and a committee has been appointed to wind up the affairs of the concern.

The Wilson-Snyder Mfg. Company of Pittsburgh have just completed the erection of a large double-acting plunger pump for the water works at Cincinnati, Ohio. The pump was constructed under the direct supervision of M. D. Neilson, who was sent to Pittsburgh from Cincinnati for the purpose. The pump has a capacity of 10,000,000 gallons every 24 hours. The castings for it were made by the Robinson-Rea Mfg. Company, the Speer Foundry and Machine Company, Sterritt Foundry and Machine Company, Limited, and Yeagel & Co., all of Pittsburgh. The metal in the castings has been tested to a tensile strength of 25,000 pounds per square inch. The combined height of the pump and engine to which it is attached will be 88 feet, the greater part of the pump proper being submerged when it is set up and ready for service. The exact weight of the pump complete is 193,834 pounds.

The Ball Engine Company of Erie, Pa., manufacturers of automatic cut off engines, have received a contract to furnish the Key West Gas and Electric Light Company of Key West, Fla., with two 150 horse-power boilers, one 150 horse-power tandem compound engine, one 100 horse-power tandem compound engine, one 60 horse-power tandem compound engine; also 300 horse-power Wheeler Admiralty Condenser, one 300 horse-power Otis Feed Water Heater and Purifier, one 300 horse-power Davidson Boiler Feed Pump; one 300 horse-power Davidson Independent Air and Circulating Pump, Korting injectors, pipe and fittings. The firm intend to make this a very complete plant in every respect, and are exercising every possible care in getting it out. J. Philbrick, president of the Key West Gas and Electric Light Company, has given the Ball Engine Company orders to make everything as complete as possible, and to consider no expense in getting best results. The Thomson-Houston Electric Company have a contract to supply the electrical apparatus. The Ball Engine Company, through their Pittsburgh agents, Dravo & Black, are furnishing the Pittsburgh Plate Glass Company, at Ford City, Pa., with two 150 horse-power tandem compound engines. To the District Telegraph Company of Pittsburgh they are furnishing two 50 horse-power engines, and to the DuBois Electric Traction Company of DuBois they are furnishing one 100 horse-power engine. All these sales have been made through the Pittsburgh agency. They are furnishing the Johnston Company of Johnstown, Pa., three 150 horse-power single-cylinder engines, one 30 horse-power cross compound for electric welding, and have just finished an order for them consisting of four 100 horse-power engines and two 60 horse-power engines, all to be used for electric welding. This makes a total of 21 engines, averaging 10 horse-power each, that the Ball Engine Company have furnished to the Johnston Company for different purposes in the various departments of their plant.

Application has been made for a charter for the Schoen Pressed Steel Brake Beam Company of Allegheny, Pa. The new company will succeed the present firm known as the Schoen Mfg. Company, manufacturers of brake beams and other railroad appliances. The incorporators are Chas. T. Schoen, Henry W. Oliver, W. A. Schoen, Sr., Edward Atley Schoen and W. H. Schoen, Jr.

At an adjourned meeting of the stockholders of the Westinghouse Electric and Mfg. Company held in Pittsburgh on Wednesday, July 15, that concern was reorganized and placed upon a solid financial basis. The capital stock of the new concern is \$10,000,000, of which \$6,550,000 is common stock. Briefly stated, the plan of reorganization is as follows: \$4,000,000 of 7 per cent cumulative preferred stock, of which \$3,000,000 has been taken at par by the reorganization syndicate to care for the company's floating debt and provide additional capital. The existing stockholders give up 40 per cent. of their stock, aggregating over \$2,500,000 par value, for the use of the company, and on the balance or 60 per cent.

of their holdings they are given a 7 per cent preference over the small amount of non-assenting stock remaining out. A new Board of Directors was elected, consisting of the following persons: August Belmont, Henry W. Hyde, Marcellus Hartley, Geo. W. Hebard and Brayton Ives, all of New York City; Chas. Francis Adams, Charles Fairchild, both of Boston, and George Westinghouse, Jr., and A. M. Byers and Lemuel Bannister of Pittsburgh. Considerable satisfaction has been expressed by the creditors of this company both in Pittsburgh and elsewhere from the fact that the company have at least been successful in having their affairs straightened out and put upon a firm basis. It is thought that the reorganization plan which has just been successfully carried out will relieve that company from all pressing obligations, and give them a sufficient working capital to prosecute their business vigorously. It is understood that many of the electrical appliances held by this firm are very valuable, and when put on the market will yield handsome profits. Since the company became embarrassed in November of last year their business has been greatly retarded on account of not having sufficient capital to carry out many valuable contracts which might have been secured.

The West Virginia Building Company have been incorporated at Ronceverte, W. Va., to operate iron foundries, machine shops, &c., and to lay out a new town.

The Mackellar Foundry Facing and Supply Company, Quincy, Ill., are a new concern recently established for the purpose of supplying the Western market with the line of goods indicated by their name. The superintendent of the new works is W. H. Mackellar of the Peekskill, N. Y., family of that name who established the oldest existing foundry facing plant in the country at that place 46 years ago. A circular just issued announces that the methods which have made the Peekskill goods so widely and favorably known will be used in the new factory. The building to be occupied is admirably situated for the work to be done. It is located on the face of a bluff and has a wide alley opening on to the top floor, so that material can be dumped into the crushers and carried by its weight down to the floors below. Active preparations are now being made and it is expected that their goods will be on the market by August 1 or thereabouts.

Some months since mention was made in these columns of the fact that A. J. Sweeney & Sons, machinists and engine builders, of Wheeling, W. Va., had decided to remove their plant to Staunton, Va. At the latter named place they will operate as the A. J. Sweeney Sons Company, which company they have incorporated, with the following officers: A. J. Sweeney, president; J. W. Sweeney, vice-president and A. T. Sweeney, secretary, all of Wheeling, W. Va.

The Linwood Iron Works, Linwood, Pa., have perfected plans for new foundry and machine shops of large capacity.

Hardware.

The Cleveland Wheelbarrow and Truck Company of Cleveland, Ohio, have disposed of their business to the Cleveland Wheelbarrow and Mfg. Company, who will continue it on a large scale.

Plymouth Air Rifle Company, Plymouth, Mich., advise us that four years ago a cheap air gun was unknown, at which time their manufacture was commenced in Plymouth in a small way. At the present time there are three concerns at that point who are shipping a daily average of over 300 guns each—about 6000 per week—which, it is stated, is over 90 per cent. of the total number of air guns manufactured in the United States. The above firm ship to every civilized country on the face of the globe.

Miscellaneous.

It is currently reported that George Pullman, of parlor car fame, will establish a steel car manufactory at Pueblo, Col.

The new car shops of the Chicago, Milwaukee and St. Paul Railroad, at Milwaukee, Wis., are nearing completion, and will be put in operation by August 1. They consist of a wood-working department, 70 x 100 feet, and an erecting department, 110 x 402 feet.

The Steel Barbed Fence Ribbon Company, capitalized at \$250,000, have been organized and incorporated, and will establish a barbed wire factory at Valverde, Col.

The Oil City Tube Works, Oil City, Pa., have declined the proposition of the city to raise a fund of \$10,000, payable to the company in three annual payments, in consideration of the company's keeping their present plant there and adding a large lap-weld pipe works. The new works, to employ about 200 hands, will probably locate at Sharon, Pa.

TRADE REPORT.

Chicago.

(By Telegraph.)

Office of *The Iron Age*, 59 Dearborn street, Chicago, July 22, 1891.

The continued growth of a better feeling in this market is rather remarkable, in view of the fact that prices are not only very low, but sales are still being made at cut rates. Orders are certain to be more numerous for finished material; local consumers of Iron are busier than at any previous time this year, and it would seem that prices must soon improve.

Pig Iron.—The foundries in this vicinity are now well employed and it is hard to find an idle plant in this line. The condition of this branch of trade shows a radical change from that existing in the spring, when few jobbing foundries could keep in steady operation. The great agricultural implement works have been so pressed with orders for quick shipment that they have been obliged to give out large orders for castings to neighboring foundries. The improved condition of the foundry trade is shown in the steady demand for Pig Iron in carloads, and in lots of 50 to 100 tons. The local makers of Coke Pig have been most benefited by this trade, as they can handle the demand for prompt shipments. Commission houses could do considerable business on small lots consigned to them. Among the sales of local Iron in the past week were a few of 300 to 500 tons. Southern Coke Iron is weaker, under pressure from manufacturers anxious to sell, especially in No. 2 Foundry, No. 2 Soft and low grades. The blowing in of so many Northern furnaces has evidently cut off quite a good outlet for some of the Southern companies, and they are now seeking new channels in which to turn their product. At least two good-sized sales of Southern Coke have been made here since our last report, one of 1000 tons and one of over 1000, both at prices understood to be something under recent quotations and for scattered deliveries. In Charcoal Iron some good sales are reported, but prices do not improve, and the demand may be termed special and not general. To sum up, the Pig Iron trade here is in a fairly healthy condition as to demand, with good prospects for continuance, but with a poor prospect for an early advance in prices.

Lake Superior Charcoal.....	\$17.00 @ \$18.00
Local Coke Foundry, No. 1.....	15.50 @ 16.00
Local Coke Foundry, No. 2.....	15.25 @ 15.50
Local Coke Foundry, No. 3.....	14.75 @ 15.00
Local Scotch.....	16.00 @ 16.50
Ohio Strong Softeners.....	18.00 @ 18.50
Southern Coke, No. 1.....	16.00 @ 16.50
Southern Coke, No. 2.....	15.00 @ 15.25
Southern Coke, No. 3.....	14.50 @ 15.00
Southern, No. 1, Soft.....	15.00 @ 15.75
Southern, No. 2, Soft.....	14.25 @ 14.75
Southern Gray Forge.....	14.00 @ ...
Southern Mottled.....	13.50 @ 14.00
Tennessee Charcoal, No. 1.....	18.00 @ ...
Alabama Car Wheel.....	21.50 @ 22.50
Coke Bessemer.....	17.00 @ 18.50

Spiegeleisen and Ferromanganese.—Quite a business is being established here in Spiegel, and local producers quote 20 % \$28; 30 %, \$38; 30 %, \$66.

Bar Iron.—An order for a round lot of heavy sizes for World's Fair purposes is on the market. The car builders are figuring on considerable work, and orders are expected soon from that source. Inquiries are in hand from a few jobbers and consumers also, but the actual business placed has been light. The market is in such shape that it cannot be forced, and while mills are getting anxious for orders they are not disposed to press sales in the present condition of trade. Prices range

from 1.65¢ to 1.70¢, Chicago, half extras. The Mahoning Valley mills are asking 1.55¢ at mill, and seem to have plenty of work for the present. The jobbers are not maintaining the advance they made some ten days since, but are slowly dropping to the old rates. The burning of a portion of the Springfield Iron Company's works will not interfere with their business in Bars, as the greater part of their works was unharmed.

Structural Iron.—For small lots of Beams and other building material the market keeps up very well, taking off stocks here very rapidly. Bridge work has been quiet for a long time, but has been picking up a little of late. Some mills have advanced prices on Angles \$2 @ \$3 1/2 ton, but there are still some sellers at quite low prices. Carload lots are quoted as follows, from mill, f.o.b. Chicago: Angles 2.10¢ @ 2.20¢; Universal Plates, 2.15¢ @ 2.20¢; Sheared Plates, 2.25¢ @ 2.35¢; Tees, 2.60¢ @ 2.70¢; Beams, 3.20¢.

Plates.—Dealers report a large volume of small orders, which keeps them very busy. Competition is keen on contracts for mill shipment and very low prices have been made on Tank Steel the past week. Store prices are steady at previous quotations.

Sheets.—Inquiries received from several points show that large buyers have not yet supplied themselves with all the Black Sheets they need. On the other hand, some of the mills are in evident need of orders and are naming low rates. About 2.90¢, Chicago, is the current price for mill shipments of No. 27. Jobbers quote 3.20¢ from stock. Galvanized Iron is not firm, although the demand is improving. Some of the jobbers are now reported to be underselling manufacturers. Juniata is quoted at 1.65¢ from stock, but an extra five cents is given to best buyers.

Merchant Steel.—The smaller agricultural implement manufacturers are still coming in to make contracts for their season supply, and are thus prolonging the buying movement much beyond the time at which it was expected to cease. So far the demand this year from this branch of trade has been very greatly in excess of any previous year. Specifications are already being received from Iron consumers for shipments which were specified for August and September. The Steel warehouses report a good trade from stock on best grades of Steel. Carload lots from mill are quoted f.o.b. Chicago as follows: Machinery Steel, 2.30¢; Open-Hearth Spring, 2.40¢; Tire, 2.30¢; Bessemer Bars, 2¢; all from good stock. Tool Steel is quoted at 7¢ @ 7 1/2¢ and upward, according to quality.

Track Supplies.—Steel Rails have been in fair demand in blocks of moderate size. Contracts for round lots are coming up for early disposal, and the prospects are good for work enough to keep the local mills busy until late in the year. Prices are still quoted on a basis of \$31 for large lots, with an advance of \$1.50 @ \$2 on smaller orders, but the manufacturers expect to be able to mark up their inside figures soon if the demand keeps up at its present rate. Splice Bar orders are more numerous, and some heavy contracts are pending. Mills are being pushed for prompt delivery. Iron Splices are quoted at 1.85¢ @ 1.90¢ with an upward tendency. Spikes are firm at 2.20¢ @ 2.25¢ and it looks now as though an understanding had been reached among the manufacturers. Track Bolts with Hexagon Nuts are unchanged at 2.80¢ @ 2.90¢, but inquiries are increasing and the outlook is improving.

Old Rails and Wheels.—A sale of 1000 tons at \$23.50 is reported, and 200 tons at \$23. Local consumers are well

supplied now, and offers are regarded with indifference. Old Steel Rails are quiet at \$14 @ \$16.50, according to length. Old Car Wheels are quotable at \$15.50 @ \$16. They are very dull now, but if holders were to reduce prices to correspond with Charcoal Pig Iron quite an active trade could be done in them.

Scrap.—Heavy Wrought has been pushed above its usual value, as compared with other Old Material, by simultaneous purchases by heavy consumers. They have in most instances bought directly from railroad companies, and some are known to have paid higher prices than dealers ask. Stocks of Forge Scrap have been run off very rapidly for this reason, and the available supply is now quite light. Other Scrap is quiet. We quote as follows, per ton of 2000 pounds: No. 1 Railroad, \$19.50; No. 1 Forge, \$18.50; No. 1 Mill, \$14 @ \$14.50; Fish Plates, \$21; Axles, \$24.50 @ \$25; Pipes and Flues, \$18; Horseshoes, \$18; Cast Borings, \$8; Wrought Turnings, \$11.50; Axle Turnings, \$13; Machinery Cast, \$12; Stove Plates, \$10; Mixed Steel, \$11; Coil Steel, \$14.50; Leaf, \$16; Tires, \$16.50.

Metals.—Copper and Spelter are unchanged. Sheet Copper is weak, with brisk competition for business between houses in the association and those outside of it. In Pig Lead local dealers report that there has been only a limited demand here, which has been satisfied at about last week's figures. Consumers, as a rule, are pretty well stocked, and are only in the market for futures, for which they are unwilling to pay the price asked. The market closed at 4.30¢ asked for July.

A. Lieberman, whose Scrap yard has been located on State street, Chicago, for over 20 years, finds himself compelled to move because the South Side Elevated Railroad cramps his facilities by taking part of his property. He will therefore store his stock hereafter at Ninety-third street and Anthony avenue, South Chicago, where he has secured 5 acres, with tracks running in from the Fort Wayne Railroad, giving room for 50 cars. He will retain a city office at 1461 State street.

Philadelphia.

Office of *The Iron Age*, 220 South Fourth St., Philadelphia, Pa., July 21, 1891.

The past week has not been much of an improvement over several immediately preceding, although the trade say they do not expect much at this season. While that may be quite true, there is no denying the fact that the depression is of a serious character, and anxiety is slowly destroying what little confidence there was. The strain has been almost continuous since last fall, and so far as anything tangible is concerned business is just as dull and prices at the lowest, or very near to the lowest, recorded during the period named. The financial position is undoubtedly the weak spot, and until there is improvement in that direction it is useless to look for it elsewhere, and there is reason to fear that no immediate relief can be expected beyond what our own country can furnish. The renewal of gold shipments to day is a disquieting feature, and although the return flow must set in soon there will be a good deal of uneasiness until that time comes. Some well informed authorities claim that fears of gold being at a premium is the source of all trouble, while others equally well informed express the opinion that gold will not be returned from Europe, but that the trade balance will be settled by securities of various kinds on which foreign holders will be compelled to realize.

It is hardly likely that either of the theories will prove entirely correct, al-

though there is no doubt that fears of such contingencies are having a good deal of influence in some quarters. A less extreme view of the position is that besides the immense amount of securities returned from Europe since the Baring difficulties, our imports, in anticipation of the new tariff, have locked up a great deal of money, so that the balance of trade was heavily against us, and then owing to the unsettled condition of affairs in Europe this balance has been called for in gold instead of being left here for the higher rates of interest. From this time on, Europe must take an immense amount of grain and other agricultural products, and as we shall take comparatively little of anything from them, it is hard to see how they can avoid gold shipments. There is of course a possibility of a further return of securities, but we must remember that Europe is not entirely bankrupt, and as the most pressing needs have been met, it is not likely that they will sacrifice on investments, which (owing to our good crops and other causes) promise better returns than for a long time past. Yet there is a feeling of uncertainty on these points which seriously affects the Iron market, and which will probably continue to do so until the outlook becomes much clearer than it is at present.

Pig Iron.—Notwithstanding the very large increase in the output, prices have been pretty well maintained. It is true that there has not been very much of a demand, but sales were all at about the same figures as last week, and while there is some anxiety to secure bids on large lots, the pressure is not unusually heavy. If buyers want lots of 500 tons and upward, there is a good deal of Iron that can be had at perhaps 25¢ below the general market, but they cannot pick their brands without paying full quoted rates. The immediate position, therefore, is not specially different from what it has been during the past six or eight months; but, with a very large increase in the output, we must have a corresponding increase in the demand, or prices at a point which will compel a good many furnaces to go out of blast. Meanwhile, sales have been at about the following prices, varying to brand, quantity, point of delivery, &c.

Ohio Softeners, No. 1x	\$19.00 @
Ohio Softeners, No. 2x	18.00 @
Standard Penna, No. 1x	17.75 @ \$18.00
Standard Penna, No. 2x	16.50 @ 17.00
Medium Penna, No. 1x	17.25 @ 17.50
Medium Penna, No. 2x	16.00 @ 16.25
Virginia, No. 1x	16.75 @ 17.50
Virginia, No. 2x	15.75 @ 16.00
Standard Neutral All-Ore Forge	14.50 @ 15.00
Ordinary Forge Cinder mixed	13.75 @ 14.00
Hot-Blast Charcoal	20.00 @ 22.00
Cold-Blast Charcoal	24.00 @ 27.00

Bessemer Pig.—There is a little more business, but at low and unsatisfactory prices, in some cases \$16.25 @ \$16.50, at furnace, having been accepted for standard qualities. Low Phosphorous Bessemer is nominally \$18 @ \$18.50, at furnace, but only small lots are taken.

Ferromanganese.—Asking prices are \$64 @ \$64.50 for 80%, duty paid, and importers claim that these are inside figures, with small lots taken at rates named.

Steel Rails.—The same old story must be repeated under this heading. Demand fair for small lots, with prices firm at \$30, f.o.b. cars at mills. A sale of 5000 tons has just been made by the Cambria at \$30, at their mills in Johnstown, Pa.

Steel Billets.—Quotations based on Pittsburgh or Wheeling bring prices here to \$28.25 @ \$28.50; but there is a strong belief that some of the local concerns are doing better than the inside quotation, although it is not publicly acknowledged. Consumers show no interest in the prices named, however, beyond saying that they can do a great deal better. At other points, too, with higher freights than to Philadelphia, consumers claim to have

Nail Slabs offered at \$28, delivered, so that, to say the least, the position is somewhat peculiar. We have just learned that a sale of 1500 tons Nail Slabs was made at \$27.75, delivered to mill on the Schuylkill, and several hundred tons of Billets at about \$28.

Muck Bars.—The market is extremely dull, and although the majority of holders quote \$26.75 @ \$27.25 at their mills, it is very difficult to find buyers at these prices. Some parties who are anxious to realize have quoted \$27.25 delivered, without finding a buyer, so that it is almost impossible to say what the market is without making an offer.

Bar Iron.—There is very little doing in this department, but as several of the mills in the vicinity are not in operation, prices are fairly steady. Prospects for starting up are still uncertain, so that in the meantime it is probable that 1.75¢ @ 1.80¢ can be realized for good city Iron, and 1.65¢ @ 1.70¢ at interior points. Orders are not large, however, and notice of an early resumption at the mills now idle would be quite likely to weaken prices unless there is a better demand than at present.

Plates.—Market very quiet. Some mills have about all the work they can handle, but there are others that are anxious to secure something ahead, to attain which prices would be shaded quite liberally. It is difficult to give exact quotations, owing to the varied condition of the mills, some would be firm at rates named below, while others would be willing to shade $\frac{1}{2}$ ¢ to $\frac{1}{4}$ ¢ if the right kind of an order was placed before them. Inquiries are not numerous or for important quantities, so that the following may be regarded as full prices for lots delivered:

	Iron.	Steel.
Tank Plates.....	2.00 @ 2.10¢	2.05 @ 2.15¢
Refined.....	2.20 @ 2.30¢	2.10 @ 2.20¢
Shell.....	2.30 @ 2.40¢	2.40 @ 2.50¢
Flange.....	3.20 @ 3.30¢	2.50 @ 2.75¢
Fire-Box.....	4.00 @ 4.25¢	3.00 @ 3.50¢

Structural Material.—There is not a great deal of business on the market, although the usual sanguine expectations are expressed in regard to the near future. The local output is somewhat restricted, on account of the labor difficulties, and for that reason prices are somewhat firmer, although not quotably changed from last week, as follows: Angles, 2.05¢ @ 2.10¢; Sheared Plates, 2¢ @ 2.10¢, and 10¢ @ 15¢ more for Steel, according to requirements. Tees, 2.5¢ @ 2.6¢; Beams and Channels, 3.1¢ for either Iron or Steel.

Sheet Iron.—There is no improvement in the demand for thin Sheets, although there is a fair inquiry for the heavier sizes, on which mills are quite actively engaged. Galvanized is very weak, but the usual quotations are about as follows for the best makes:

Best Refined, Nos. 14 to 20.....	3.00¢ @ 3.10¢
Best Refined, Nos. 21 to 24.....	3.10¢ @
Best Refined, Nos. 25 to 26.....	3.20¢ @ 3.30¢
Best Refined, No. 27.....	3.40¢ @
Best Refined, No. 28.....	3.50¢ @

Common, $\frac{1}{4}$ ¢ less than the above.

Best Soft Steel, Nos. 14 to 20	3¢ @ 3½¢
Best Soft Steel, Nos. 21 to 24	3½¢ @
Best Soft Steel, Nos. 25 to 26	4¢ @
Best Soft Steel, Nos. 27 to 28	4¢ @

Best Bloom Sheets, $\frac{1}{4}$ ¢ extra over the above prices.

Best Bloom, Galvanized, discount.... @ 67½%

Common, discount..... @ 70 %

Old Rails.—Prices of Iron are nominal at \$21.50 @ \$22.50 according to location, but there is no demand of any importance. Old Steel are selling at \$17.50 @ \$18, delivered, with a good demand at the inside figure.

Scrap Iron.—Business is on a very limited scale, but for such lots as buyers are willing to take prices are about as follows: No. 1 Railroad Scrap, \$20.50 @ \$21.50, Philadelphia, or for deliveries at mills in the interior \$21 @ \$22, accord-

ing to distance and quality; \$15 @ \$16 for No. 2 Light; \$14 @ \$15 for best Machinery Scrap; \$13 @ \$14 for ordinary; \$15 @ \$16 for Wrought Turnings; \$10 @ \$10.50 for Cast Borings, and nominally \$24 @ \$25 for Old Fish Plates, and \$16 @ \$17, delivered, for Old Car Wheels, with very little demand for either Fish Plates or Old Car Wheels.

Wrought-Iron Pipe.—There is a very fair demand, but prices are still irregular, and in some cases an extra 5% and upward is allowed on a good sized order. Nominal discounts are as before, viz.:

Butt-Welded Black.....	55 %
Butt-Welded Galvanized	45 %
Lap-Welded Black.....	65 %
Lap-Welded Galvanized.....	52½ %
Boiler Tubes, 2½ inch and under.....	55 %
Boiler Tubes, 2¾ inch and larger.....	60 %

The H. C. Frick Coke Company have established a branch office at 203 South Fourth street, in charge of J. Ogden Hoffman. The demand for their "Frick" Foundry Coke has grown so rapidly since the termination of their strike, that additional facilities have been necessary to handle this specialty.

Cleveland.

CLEVELAND, July 20, 1891.

Iron Ore.—About the only new feature of the past week has been the advance in lake freights, a change, however, that indicates an improvement in the conditions at the furnaces. The Marquette rate has gone up to 95¢ per ton, \$1 being paid in one or two instances, while 75¢ is being paid from Escanaba, an advance of 20¢ over the opening figures. Over 70,000 tons of new Ore were received at Cleveland during the week just closed and about 42,000 tons have gone on to the furnaces. Sales of small quantities of Gobebic Bessemers at \$4.60 @ \$4.80 are reported, the Ore taken being of a desirable grade. High grade Ores are well sold up and no great effort is being made to dispose of the scattering lots still on hand. A few thousand tons of non-Bessemers have been sold during the week at figures approximating \$3.75 f.o.b. cars lower lake ports. It is estimated by local dealers that the sales of new Ore to date will approximate 6,000,000 tons, possibly a trifle more than that. It is not very likely that more than 500,000 or at the most 1,000,000 tons of new Ore remain unsold. The furnaces were for a long time idle in the early summer and no effort was made to forward the millions of tons of Ore on the lower lake docks. The present activity is something like a home stretch spurt and by no means indicates that anything like last season's business is to be done.

Pig Iron.—There has been some buying during the past ten days for August and September delivery, but furnace men have appeared in no mood to hurry sales. Buyers seem equally confident that the market will steadily improve, for they are asking eagerly for Mill and Foundry Iron to be delivered within two months. Bessemer has been a trifle weak, but is now gaining favor again. With the beginning of the new week considerable activity is manifested and business is quite good at the following figures, which are strictly local quotations:

No. 1 to 6 Lake Superior Charcoal	\$18.50 @ \$19.00
No. 1, 2 and 3 Bessemer, per ton..	16.80 @ 17.00
No. 1 Strong Foundry, per ton..	15.50 @ 16.00
No. 2 Strong Foundry, per ton..	15.00 @ 15.50
No. 1 American Scotch, per ton..	16.80 @ 17.00
No. 2 American Scotch, per ton..	15.80 @ 16.85
No. 1 Soft Silvery, per ton.....	16.50 @ 17.50

Mahoning and Shenango Valley
Neutral Mill Irons, per ton..... 14.80 @ 15.00

Mahoning and Shenango Valley
Red Short Mills, per ton..... 15.00 @ 15.50

Structural Iron.—All the mills report good business, as an immense amount of new building is in progress.

Nails.—Wire Nails are in better demand at \$2.10.

Old Rails.—Not much is being done in the way of sales. Prices remain about as they were last week, \$22.25 @ \$22.50.

Manufactured Iron.—Business is good but prices remain almost stationary, common Bar being quoted at 1.70¢ @ 1.75¢ from the mills.

Scrap.—No. 1 Railroad is selling at intervals at \$19, but the demand is not very strong. Old Car Wheels are in slight demand at \$16.50 @ \$17. Cast Scrap is still quoted at \$13.50 @ \$14.

Cincinnati.

(By Telegraph.)

Office of *The Iron Age*, Fourth and Main Sts.,
CINCINNATI, July 22, 1891.

Pig Iron.—The market still continues without animation, with no large transactions during the week, and although there has been a fair volume of consumptive distribution the aggregate is far from satisfactory. There has been some No. 2 Foundry Iron sold, which grade is not in large supply. There is a moderate quantity of Southern Charcoal Iron. Mottled Forge Iron sold to a fair extent at \$9.50, and White Iron \$9 at the furnace. The price for Gray Forge continues to be \$10 at the furnace for the moderate quantity moving, but it is a buyers' market and they dictate the terms and obtain almost any delivery they choose. It is shrewdly suspected that a bid for a round lot at 25¢ less would be accepted. There are no certain indications of an increase in the consumption of Iron, but it is reasoned that this must come later in the season, with the improvement in the crops and the general commercial situation, which already begins to have a favorable effect upon general trade; but the railroads continue to pursue a very conservative policy, and are not rushing work in their repair shops, and there is no evidence that the pipe works are increasing their melting of Iron. The reported increase in the production of Iron and the large stocks on hand July 1 is like a wet blanket on the market, and yet there is a cropping out here and there of a confident feeling that there must be a better outcome to the Iron trade than is apparent in the usually dull month of July. Quotations are unchanged:

Foundry.

Southern Coke, No. 1	\$14.75 @ \$15.00
Southern Coke, No. 2	13.75 @ 14.00
Southern Coke, No. 3	12.25 @ 13.50
Ohio Soft Stone Coal, No. 1	16.50 @ 17.00
Ohio Soft Stone Coal, No. 2	15.50 @ 16.50
Mahoning and Shenango Valley	17.00 @ 17.50
Hanging Rock Charcoal, No. 1	20.00 @ 21.00
Hanging Rock Charcoal, No. 2	19.00 @ 20.00
Tennessee and Alabama Charcoal, No. 1	16.00 @ 17.00
Tennessee and Alabama Charcoal, No. 2	15.00 @ 16.00

Forge.

Gray Forge	12.75 @ 13.00
Mottled Neutral Coke	12.25 @ 12.50
Car Wheel and Malleable Irons	19.25 @ 19.75
Standard Southern Car Wheel	25.00 @ 26.00
Lake Superior Car Wheel and Malleable..	18.00 @ 18.50

Louisville.

LOUISVILLE, KY., July 20, 1891.

Pig Iron.—The character of the buying is largely carload lots, consumers reporting demand for finished material as not being up to their expectations and that it is difficult where sales have been made to secure prompt settlement. This has led to unusual conservatism in placing orders and the quantity of Iron placed is very small. Prices are being made that are regarded by all as extremely low, but, notwithstanding the assurance of heavy crops with fair prices for same, buyers of raw material are not willing to purchase

largely for the future. This is specially true of Car Wheel Irons, that are offered in many instances largely below cost for special reasons, and yet buyers are afraid to purchase heavily, though they realize that any change may cause same to advance sharply, and that it cannot be expected that Charcoal Irons for any length of time can be bought as at present—below cost. It is thought that this inactivity must change shortly to free buying, as crops are largely assured. We quote for cash, cars, Louisville, Ky.:

Southern Coke, No. 1 Foundry ..	\$14.50 @ \$15.00
Southern Coke, No. 2 Foundry ..	13.75 @ 14.25
Southern Coke, No. 3 Foundry ..	13.25 @ 13.75
Southern Coke, Gray Forge ..	12.75 @ 13.25
Southern Charcoal, No. 1 Foundry ..	16.00 @ 17.00
Southern Car Wheel	18.00 @ 20.00

Detroit.

WILLIAM F. JARVIS & Co., Detroit, Mich., under date July 20, say: In a general way the transactions in Pig Metal are confined to carload and small-lot orders, and were it not for a few rather large transactions in Lake Superior Charcoal the market would be entirely featureless. Some inquiries which came in during the week prior to the one under review developed into considerable actual transactions. The Malleable Iron makers' business must be very large, as these deals were chiefly confined to them, and some of the buyers were those who contracted early in the season for all they presumably would require, but find themselves in need of further quantities with the season not yet half gone by. It is but natural, then, to expect others to be in much the same condition, and it is hoped and believed by the furnacemen that the most sanguine estimators for large tonnage will only err in placing the amount too low. The car and car wheel makers are getting more busy every week, and with the development of wants on the part of the railway companies when the large crops shall commence moving, a continued good business should be seen during the balance of the year. The market quotations are as follows:

Lake Superior Charcoal, all numbers	\$18.00 @ \$18.50
Lake Superior Coke, Bessemer	17.75 @ 18.25
Ohio Blackband (40 per cent)	18.00 @ 18.25
Lake Superior Coke Foundry, all ore, No. 1	17.50 @ 18.00
Southern No. 1	16.25 @ 16.50
Southern Gray Forge	14.00 @ 14.50
Jackson County (Ohio) Silvery	18.00 @ 18.50

St. Louis.

OFFICE OF *The Iron Age*, 214 N. Sixth st.,
ST. LOUIS, July 20, 1891.

Pig Iron.—Extreme dullness continues to be the feature in this department. Furnaces are stocking up, rather than sell at less than prices quoted below, which they claim just about allows them to come out even. Consumption keeps up to the average, but consumers do not yet seem to think that the market has reached bottom, and cannot be induced to purchase only what they actually require. Under the circumstances, any large movement is out of the question, and furnaces have about reached the conclusion that if there is any movement in the market it will not be felt until the crops are harvested. There continues to be a scarcity of No. 1 Foundry and \$15.50 f.o.b. cars St. Louis, is bottom for this grade. The outlook cannot be called particularly encouraging, yet on the other hand, there is nothing in the immediate future which is likely to seriously affect the market. Conservative manufacturers anticipate a satisfactory fall trade, but do not expect a large movement. Sales during the week have been in limited quantities on the basis of prices as quoted here-with, which are for cash, f.o.b. St. Louis:

Southern Coke, No. 1 Foundry ..	\$15.50 @ \$15.75
Southern Coke, No. 2 Foundry ..	14.50 @ 14.75
Southern Coke, No. 3 Foundry ..	14.00 @ 14.25

Gray Forge	13.00 @ 13.25
Southern Charcoal, No. 1 Foundry ..	17.75 @ 18.25
Southern Charcoal, No. 2 Foundry ..	16.75 @ 17.25
Missouri Charcoal, No. 1 Foundry ..	15.50 @ 16.00
Missouri Charcoal, No. 2 Foundry ..	15.00 @ 15.50
Ohio Softeners	17.50 @ 18.75

Bar Iron.—The market shows some slight improvement. Jobbers report an active demand, and mills are unwilling to sell for future delivery at present prices. Some of the mills are closed down on account of the hot weather, and stocks are not increasing as they might otherwise do. Prices are firmly adhered to as follows: Lots from mill command 1.70¢ @ 1.75¢, delivered on cars at East St. Louis. Lots from store command 1.82½¢ @ 1.87½¢, according to quantity.

Barb Wire.—The market is unsettled. Prices are weak and the outlook at the moment is not encouraging. We quote as follows: Painted, from mill, 2.70¢ @ 2.75¢; Galvanized, 3.25¢ @ 3.30¢.

Wire Nails.—There is some improvement noticeable in this department. The season for a heavy consumption is at hand, and jobbers and retailers alike are feeling the improvement. Carload lots from mill are quoted at \$2.15. Small lots are quoted at \$2.25.

(By Telegraph.)

The situation in Pig Lead is practically the same as last week. Consumers are buying sparingly and prices remain unchanged at 4.20¢ @ 4.22½¢ for prompt shipments. The demand for Spelter has eased off somewhat, and, while prices have remained stationary, there is an absence of that snap which was observable last week. Stocks on hand are light, however, and the dullness is thought to be temporary. For early deliveries 4.90¢ is quoted.

New York.

Office of *The Iron Age*, 96-102 Reade street,
NEW YORK, July 22, 1891.

Pig Iron.—Reports are again numerous of special transactions and cuts on Southern Pig Iron, which indicates a weakening tendency among some of the sellers in that section of the country. So far as we can learn, this has not as yet seriously disturbed this market. Northern brands are quoted at \$16.75 @ \$18 for No. 1; \$16 @ \$16.50 for No. 2, and \$14 @ \$14.50 for Gray Forge. Southern Irons sell at \$16 @ \$17 for No. 1; \$15.25 @ \$16 for No. 2; \$15.50 @ \$16 for No. 1 Soft, and \$14 @ \$14.50 for Gray Forge.

Spiegeleisen and Ferromanganese.—The only transactions of magnitude have been the sale of a few hundred tons of imported Ferromanganese at a shade under \$64. Rumors are again afloat that there exists a combination between the leading American sellers and the foreign works. These rumors, however, are not credited in this market.

Billets and Rods.—There seems to have been a cessation of business in foreign Billets for re-export, although 87/3 is the quotation made at foreign shipping ports. In the East the market has been very quiet, both in Billets and in Wire Rods.

Steel Rails.—Another week of absolute stagnation must be recorded so far as the Eastern mills are concerned, and at least one large Western works reports that orders are light, as they have been for some time past. The official report of the Board of control shows the shipments of standard sections of Rails up to July 1 to have been 454,423 tons, which proves

that our estimate, made some time since, of 450,000 tons, was very close to the truth. Orders booked up to July 1 aggregate 808,910 tons. This shows that during the whole month of June the sales by all the mills aggregated only 73,000 tons. The market remains steady at \$30.75 @ \$31 at tidewater.

Rail Fastenings.—Western makers of Spikes report some heavy sales during the past week and have advanced their price to 2.10¢ at mill, equivalent to 2.25¢ at tidewater. The combination which exists among the manufacturers is similar in its details to the association which was formed some time since among the Steel Rail makers. We quote: Spikes, 2.15¢ @ 2.25¢, delivered; Bolts and Nuts, 2.70¢ @ 2.80¢, and Fish Plates, 1.75¢ @ 1.80¢.

Manufactured Iron and Steel.—The most encouraging news of the week is that at an early date contracts will be given out for six large ocean-going steamers, two of them to ply between New Orleans and Liverpool and one for the Pacific Coast. These will bring out some very heavy orders for Ship Plates and for the necessary Structural Material. In Boiler Plates some of the Pittsburgh works are very short of orders, but decline to name lower prices to induce business. The bridge makers continue to bid low prices. The Allegheny Bridge was taken by the Union Bridge Company, while a highway bridge at Holyoke brought out bids ranging between 3.7¢ and 4.4¢ per lb., erected, for a structure calling for about 1500 tons of Iron. We quote: Angles, 1.95¢ @ 2.10¢; Sheared Plates, 1.95¢ @ 2.25¢; Tees, 2.45¢ @ 2.75¢, and Beams and Channels, 3.1¢, on dock. Steel Plates are 2¢ @ 2.15¢ for Tank, 2.3¢ @ 2.6¢ for Shell, and 2.5¢ @ 2.7¢ for Flange, on dock. Bars are 1.7¢ @ 1.9¢, on dock.

Old Material.—Absolute stagnation continues in the Old Iron Rail trade, the last sale having been a lot of 200 tons at \$21.50. There is considerable inquiry, however, for Old Steel Rails for Open Hearth melting stock, but little business is done, since sellers' views are usually too high.

Financial.

Events bearing on the business situation with reference to the future are of a mixed character. The foreign movements of gold are an enigma, defying explanation, shipments being simultaneously in both directions. Further installments are going out, despite a decided fall in exchange and in face of largely increased drawings against present and prospective exports of commodities in an augmenting volume. This adverse influence is offset by renewed assurances from high official quarters that the demands of Europe for American grain will be extraordinary, and this, coupled with the fact that the harvest of winter wheat is everywhere turning out fully equal to expectation, filling the Western granaries preparatory to distribution through all the channels of transportation. Added to the foregoing the suspension of the River Plate Bank, in London, suggested the possibility of renewed disturbance in that market. The forward movement of wheat has fairly commenced, including the first of the new crop. In this market on Saturday export engagements were heavy and advices from Baltimore are that France alone has ordered wheat from that port to the value of \$5,000,000—that is to say, 5,000,000 bushels, roughly estimated. Engagements at New York, according to accepted authority, amount to at least 50,000,000 bushels, through the purchase of options maturing during the next 60 days, a large part of which will doubtless go forward as fast as freight accommodations are obtainable at

reasonable rates. It will be more legitimate banking hereafter, says Henry Clews, to provide for importing gold rather than exporting it, as all the conditions are in that direction. Agreeably to this view the London *Times*, after referring to the "grave deficit" in Russia and the famine in a considerable part of India, says that in England "the harvest will be late and prices will be high." The American Consul at Odessa says, further, a 25% shortage in Russia means a deficiency of 50,000,000 bushels, and that including a shortage of 60% in rye the total deficiency is 250,000,000 bushels.

Stocks were very dull, the street seeming to be chiefly interested in the grain markets. The features were a rise in the Grangers and in Atchison, Topeka and Santa Fé on favorable reports regarding the harvested and the growing crops; a sharp advance in Edison General Electric on news of the decision of Judge Wallace, in the United States Circuit Court, in the suit involving the Edison lamp; a fall in National Cordage common, due to a free selling of North American. On Saturday the news of the suspension of the English Bank of the Rio Plate in London had an unsettling effect. A weaker tone for Lackawanna was based upon reports of an unsatisfactory condition of the coal business. Later the market was influenced by the unexpectedly favorable bank statement. On Tuesday Chicago advices reported booming markets for grain, based upon the export movement, but dullness continued.

United States bonds were quoted as follows:

U. S. 4½%, 1891, registered.....	100%
U. S. 4½%, 1891, coupon.....	100%
U. S. 4%, 1907, registered.....	117½
U. S. 4%, 1907, coupon.....	117½
U. S. currency 6%, 1898	110

The posted rates for bankers' sterling are \$4.84½ @ \$4.87½. The market is dull and steady.

Merchandise is quiet. On Saturday large purchases of wheat were made on export account. Since then prices have been firmer, but breadstuffs were less active and lower on heavy receipts at the West of all kinds of grain. Corn shows little animation and is lower. Provisions dull and easy. Coffee steady. Dry goods were more active than for several weeks. Middling cotton is quoted 8½¢, against 12½¢ one year ago, but low prices cease to affect the manufactured product. Collections are now as good in the South as in other sections. A drop of ½¢ in cotton on Tuesday caused high excitement and large buying of spot.

Exports of merchandise from this port for the week were \$6,272,000; imports ditto, \$9,175,000; specie exports, \$600,000.

While money on call is abundant, discounts are obtained with difficulty. Dealers in commercial paper complain that, notwithstanding the fairly large reserves of the banks, paper cannot be sold freely in the city, and the demand from the interior banks is light, because of local inquiries for discounts. The supply of good names is increasing. Rates are 5½% for 60 to 90 days' indorsed bills receivable. Time contracts on active Stock Exchange collateral are 4% for 60 days and 5½% to 6% for five to six months. The bank return for the week shows an increase of \$3,947,650 in reserve, which now stands at \$18,489,675 surplus. The loans show a gain of \$474,500; the specie is up \$2,266,400; legal tenders increased \$3,185,100, and deposits are up \$6,015,400. The inability of the bankers to find a market for bonds, which in ordinary times would meet with ready sale, is still regarded as a discouraging feature.

Railway mortgages were irregular. State bonds were dull. Alabama class B brought 105%. North Carolina consol 4s 99 and Tennessee settlement 3s 68½. Silver was

heavy and lower. Bar silver in London declined to 45½d. per ounce.

The report of Receiver J. Edward Simmons of the American Loan and Trust Company makes a complete showing of the bad loans and worthless collateral which wrecked the concern. The preferred creditors—to whom is owing \$704,000—will be paid in full, the common depositors will get 25% and the stockholders nothing.

Secretary Foster issued a call on National bank depositaries to surrender their deposits, or portions of them, in accordance with his decision to reduce the aggregate deposits to about \$15,000,000. About \$6,000,000 called for is to be turned into the Treasury before August 15, and the other half before September 15. The increase in Government receipts for the first half of the current month is regarded at Washington as confirmatory of Secretary Foster's estimate that he will have \$40,000,000 or more available for purchases of Government bonds by September 1.

The clearings of 61 cities last week were \$1,604,079,355, a decrease of 10.5%. Outside New York the decrease was 3.3. New York lost 15.7%; Boston, 7.2%; Philadelphia, 21.6%; Pittsburgh, 15%; Kansas City, 17.1%; Louisville, 15.1%; Birmingham, 30.3%, and Chattanooga, 29%. Chicago increased 5%. St. Louis, 2.2%; Cincinnati 9.4%, Detroit 12.8%.

Coal Market.

The trade situation has not improved. Schedule prices have become mythical in the face of free selling by parties who prefer to be unknown. It is no longer denied that Coal has been sold at May prices, and the figures given last week as best indicative of the actual market still hold good, as follows: Free Burning Broken, alongside, \$3.65; Egg, \$3.75; Stove, \$3.90; Chestnut, \$3.65; Pea and Buckwheat range from \$1.90 to \$3, according to quality. Bituminous Coal is dull at \$3.25 per ton, alongside, the minimum price. Mutual criminization is but natural under the circumstances among the wholesale traders, individual operators feeling no less aggrieved, but it is considered discreet to say little for the public ear. Unrestricted production and reckless selling are the common complaint. The large amount of Coal mined seems to be used, however, which is quite encouraging. The production of Anthracite for June was 3,780,242 tons, an increase over last year at the same date of 334,680 tons. Anthracite Coal mined in 1891 so far, 19,208,458 tons, an increase of 2,633,509 tons over the same period last year. Pennsylvania Railroad Coal tonnage for the year has been 7,077,507 tons, an increase of 758,000 tons compared with last year's tonnage to same date. The Reading Company's shipment for the week ending July 18 was 225,000 tons, 35,000 tons going to Port Richmond and 20,000 to New York waters.

The Anthracite situation is epitomized by a New York correspondent of Wednesday's *Philadelphia Press*, who says:

"The race for tonnage is now at a slashing pace. The climax is near at hand, and it is an open secret that interesting correspondence has been going on between the leading carrying companies for nearly a week. The president of the Lackawanna, who fully supports Mr. Holden in his recent cut of prices, has written a very terse Sam Sloanish letter to the Lehigh Valley people, in which he vigorously contends that restriction don't restrict. Mr. Sloan also intimated that if there was to be any kind of method in the conduct of the trade, there would have to be a new deal. The Lehigh Valley folks might retort that restriction don't restrict in Mr. Sloan's case, as he is more than 100,000 tons ahead

of his allotment, while the Lehigh Valley and Reading are below it. But it is idle to discuss small questions of detail while the companies are sending such quantities of Coal as at present. This leading fact is notice to buyers that the great companies don't intend to hold prices, their business being merely to ship Coal. There will no doubt be a meeting and a patch up of some kind unless there is some interest which wants to bear the stock market by demoralizing the Coal trade, but so far the attempt to get the presidents of the companies together has failed."

The Philadelphia *Ledger* says: "The Sales Agents of the Norfolk and Western Railroad, of Philadelphia, have secured two important Soft Coal contracts. The White Star Steamship Company have awarded them a contract to Coal their transatlantic steamers (both fast and slow vessels) at New York with Pocahontas Coal for one year. This will require about 120,000 tons. The "Allen Line" Steamship Company have also closed a contract with the same firm for from 75,000 to 80,000 tons of Pocahontas Coal per annum, to be delivered to the Allen Line and State Line steamers at Halifax, Quebec and New York."

The answer of the Lehigh Valley to the complaint of the Interstate Commerce Commission, that its order in the famous Coxe case had not been obeyed, has just been filed in the United States Circuit Court in Philadelphia.

With reference to the excessive Anthracite output, the common impression is that the Reading is the principal offender, its financial policy requiring a good show of earnings for transportation regardless of results in the Coal department of its business. Its rivals, so it appears, do not intend to be left behind. The Reading has a pile at Mahanoy City, the Jersey Central at Hampton, N. J., the Lackawanna at Washington, N. J., the Delaware and Hudson at Rondout, the Lehigh Valley is beginning to store Coal at Plainfield, N. J., and the Lehigh and Wilkes-Barre Coal Company have a large new yard at Salem, Mass.

Metal Market.

Pig Tin.—Prices have gradually reeded under the weight of cable advices noting an almost steady downward movement in the London market. There was no speculative demand to check the decline, and purchases by distributors and consumers were too small to have the slightest influence. In fact, there was practically no business until Tuesday of the current week, when transactions took place on the Exchange to the extent of 145 tons at 20.20¢ @ 20¢ for July and 20.20¢ for August and October delivery. In response to slightly better cable advices at the close, Wednesday's market was a shade firmer. Early in the day a contract was made for 10 tons each month, July to December, inclusive, at 20.15¢ and 10 tons at 20.20¢ for July. Subsequently 20.20¢ was bid for spot or current month delivery.

Copper.—Outside of the export deliveries on old contracts there is comparatively little movement, and no signs are visible of any departure on the part of consumers from the extremely conservative policy that has been followed for several months. That is to say, supplies are taken only as imperative wants may dictate, and present requirements are, apparently, neither extensive nor urgent. At 12½¢ there appears to be more Lake Superior Ingots on sale than outlet for can be found and small parcels have been let go at a shade less. On the Metal Exchange there were offers to sell at 12½¢. Arizona

is wholly nominal and 12¢ is quoted as the asked price for common casting brands.

Pig Lead.—The market has undergone no change during the past week. Smelters offer with more or less reserve and name 4.45¢ as a close price for early shipments. They have, however, sold very little Lead in this market. Local holders appeared satisfied to accept 4.40¢ @ 4.42½¢, and secured what few orders came upon the market. About 400 tons will cover the sales made during the week.

Selter.—There has been very little demand this week, and negotiations found consumers extremely indifferent. This in action, however, does not appear to have disheartened smelters. On the contrary, the latter are still quoting 5.10¢ @ 5.15¢ for future shipments, and assert that higher prices would quickly be established in the event of the demand becoming livelier. On the Metal Exchange there were offers to sell at 5.05¢, spot.

Antimony.—The demand continues slow, and prices are still more or less in buyers' favor. Hallett's quoted at 11½¢, LX at 12¢, and Cookson's at 12½¢, in wholesale quantities.

Tin Plate.—The situation is practically the same as was outlined a week ago. A fair business has been done during the interval, chiefly in filling small orders and turning lots that might be secured at prices under the market. There has been some negotiation on round lots, but, as yet, no important transfers appear to have taken place. We quote: Coke Tins—Penlan grade, IC, 14 x 20, \$5.25; J. B. grade, do., \$5.35 @ \$5.40; Bessemer do., \$5.25 @ \$5.30; Siemens Steel, \$5.45 @ \$5.50. Stamping Plates—Bessemer Steel, Coke finish, IC basis, \$5.75; Siemens Steel, IC basis, \$5.85 @ \$6; IX basis, \$6.85 @ \$7. IC Charcoals—Melyn grade, \$6.50; for each additional X add \$1.50; Allaway grade, \$5.90 @ \$6; Grange grade, \$6; for each additional X add \$1. Charcoal Terres—Worcester, 14 x 20, \$5.75; do., 20 x 28, \$11.40; M. F., 14 x 20, \$7.50; do., 20 x 28, \$15.50; Dean, 14 x 20, \$5.25; do., 20 x 28, \$10.50; D. R. D. grade, 14 x 20, \$4.85; do., 20 x 28, \$10; Mansel, 14 x 20, \$5.12½; do., 20 x 28, \$10.10; Alyn, 14 x 20, \$5.15; do., 20 x 28, \$10.30; Dyffryn, 14 x 20, scarce; do., 20 x 28, \$10.75. Wasters—S. T. P. grade, 14 x 20, \$4.80; do., 20 x 28, \$9.70; Abercarnie grade, 14 x 20, \$4.80; do., 20 x 28, \$9.60.

New York Metal Exchange.

The following sales are reported:

THURSDAY, July 16.

40 tons Tin, July.....	20.30¢
(Seller's right to quadruple.)	

10 tons Tin, July.....	20.45¢
------------------------	--------

FRIDAY, July 17.

25 tons Tin, July.....	20.35¢
(Seller's right to double.)	

TUESDAY, July 21.

25 tons Tin, August.....	20.20¢
10 tons Tin, October.....	20.20¢
50 tons Tin, July.....	20.20¢
(On one day's notice.)	

50 tons Tin, July.....	20.25¢
------------------------	--------

Imports.

Hardware, Machinery, &c.

Andres, F. J., Mach'y, pkgs., 4	
Aukans, Hermann & Co., Mach'y, cs., 22	
Ascensio & Gossig, Mach'y, pkgs., 8	
Boker, Hermann & Co., Cutlery, cs., 3; Arms, cs., 50	
Botany Worsted Mills, Mach'y, pkgs., 114	
Folk, J. E., Mach'y, cs., 71	
Lamb & Griesbach, Mach'y, cs., 29	
Pioneer Iron Works, Mach'y, crate, 1	
Schooverling, Daly & Gales, Arms, cs., 64	
Van der Toorn, Arms, cs., 4	
Vought & Williams, Anvils, 86	
Werleman, H., 44	
Wiebusch & Hilger, 27	
Order—Mach'y, pkgs., 16	

Pittsburgh.

Office of *The Iron Age*, Hamilton Building, Pittsburgh, July 21, 1891.

Pig Iron.—There has been no important change developed in the situation during the past week, with the exception that Bessemer has gone off 20¢ to 30¢ per ton. The demand for the latter appears to have fallen off somewhat, and this, in connection with an increased production, caused the weakness to which reference has been made. Consumers are pretty well covered for the next two or three months, but producers are pretty well sold up during the same time. There has been no change in the price of Forge Iron for two or three months, and while some furnacemen refuse to make additional contracts at present rates, consumers have no difficulty in supplying themselves at prices quoted. Valley furnacemen report sales at \$13.50 @ \$13.75 for Forge Iron at their furnaces, which would be equal to \$14.20 and \$14.45, delivered in Pittsburgh, as the cost of transportation is 70¢ per ton, whereas city furnaces have been supplying the demand here at \$14. Foundry Irons continue dull and prices are weaker if anything. Foundry buyers are buying very sparingly and only as their immediate wants require. We quote prices as follows:

Neutral Gray Forge.....	\$14.00	cash
White and Mottled.....	13.00	cash
All-Ore Mill Iron.....	14.50	cash
No. 1 Foundry.....	16.50	cash
No. 2 Foundry.....	15.50	cash
No. 3 Foundry.....	14.75	cash
No. 2 Charcoal Foundry....	21.00	cash
Cold-Blast Charcoal.....	25.00	cash
Bessemer Iron.....	16.25	cash

The sales of Bessemer Iron reported the past week were at prices ranging from \$16.25 to \$16.40, against sales the preceding week at \$16.50 @ \$16.60. At the present time Southern Iron cuts a very small figure in our market, from the fact that the cost of transportation by rail is too much, and river transportation is very unreliable at this season of the year.

Muck Bar.—There is a very fair business, but prices remain about as last quoted, selling at \$26.50 @ \$27, cash. There is not the demand there was at this time last year, which may be attributed to the fact that there is not the same activity in the Wrought-Iron Pipe trade, as the mills making Pipe are the chief buyers of Muck.

Manganese.—Sales of domestic 80% Ferro at \$66.50, cash, which has been the ruling price for some considerable time past.

Manufactured Iron.—There is nothing especially new to note in connection with the regular Merchant Iron trade; business, while not as active as it sometimes is at this time, is improving, and while some of the mills are not running up to their full capacity they are all in operation. There is every indication that business will improve as the season becomes more advanced. Manufacturers continue to complain in regard to prices as being unsettled and unremunerative, caused by an active competition, but with an improved demand better prices are looked for. City made Iron quoted at 1.70¢ @ 1.75¢ for Bars; Plate and Tank, 2.10¢ @ 2.15¢; No. 24 Sheet, 2.80¢ @ 2.85¢, all 60 days, 2% off for cash. Skelp Iron, 1.62½¢ @ 1.67½¢ for Grooved, and 1.87½¢ @ 1.90¢ for Sheared, four mouths, 2% off for cash.

Nails.—The Cut Nail trade continues much the same as noted for some time past; while business is fair, all that can reasonably be looked for under existing circumstances, it is far from being active and prices to makers are very unsatisfactory. Desirable orders are still quoted at \$1.55 @ \$1.60, 60 days, 2% off for cash,

f.o.b. at factory. The Wire Nail trade is moderately active, although orders are not offering as freely as some weeks ago. However, manufacturers generally are pretty well sold up; and while prices are generally quoted at \$1.95 @ \$2.60 days, 2% off for cash, f.o.b. at factory, it is intimated that desirable orders can still be placed at \$1.90, notwithstanding some makers quote the market strong at our highest quotation.

Structural Material.—While, so far as we can learn, there has been but little new business placed during the past week, there is an increasing demand, which, it is thought, will lead to an improved business in the near future. Labor troubles—the carpenters' strike in particular—have had an exceedingly bad effect upon this interest, and a great many contemplated improvements will now go over until next year, as it is now too late to commence the same. However, as already stated, there is an increasing inquiry, and business will no doubt be considerably better from now on until the close of the year. Prices remain unchanged, as follows: Beams and Channels, 3.10¢; Angles, 2¢; Sheared Bridge Plates, Steel, 2.10¢ @ 2.15¢; Universal Mill Plates, Iron, 2.05¢; Refined Bars, 1.80¢ @ 1.85¢.

Steel Plates.—There have been no new contracts of any consequence placed here for some time past, and while business is reported dull prices remain unchanged, as follows: Tank, 2.10¢; Shell, 2.40¢; Flange, 2.60¢; Fire Box, 3.90¢ @ 4.25¢.

Merchant Steel.—There is a fair business at unchanged prices: Crucible Tool Steel, 7¢ @ 7.5¢; do., Spring, 4¢; do., Machinery, 4.5¢ @ 5¢; Bessemer Spring Steel, 2.50¢; do., Machinery, 2.40¢ @ 2.50¢; Toe Calk, 2.5¢; Tire Steel, 2.20¢; Steel Bars, 1.85¢ @ 1.90¢ rates, full extras.

Barb Wire.—Painted is quoted at 2.55¢ and Galvanized at 3.10¢, f.o.b. at factory, for large orders. A meeting of manufacturers will take place about the 1st of August, at which it is expected prices will be advanced.

Old Rails.—There has been an increased business in Old Iron Rails during the past week, with sales of 600 and 300 tons reported, both at \$23, delivered in Mahoning Valley. Old Steel Rails continue in demand for remelting. We continue to quote at \$17.50 @ \$18.50. Sale 1300 tons reported at last-named price.

Billets and Slabs.—We continue to quote Billets at \$25.50 @ \$26, with the most of the business at \$25.50, cash, deliverable at makers' mill. There is a continued fair demand, with the mills both here and at Wheeling pretty well sold up, and the indications are favorable for a good steady business from now on until the close of the year. The mill at Duquesne, owned by Carnegie & Co., which was stopped for several weeks in consequence of a strike, has been started up as a non-union mill. This mill is run chiefly on Billets, but when pressed with orders for Rails, it is put on Rails.

Wire Rods.—There have been no sales reported the past week, in the absence of which we continue to quote at \$36 @ \$37, cash, at makers' mill. There are three Rod mills here, but none of them are sellers, as the firms owning them are consuming about all they can make.

Steel Rails.—Business only fair, but is expected to improve later on in the season; price remains unchanged at \$30, f.o.b. at mill.

Railway Track Supplies.—There is an active demand reported for all kinds of Track Supplies and manufacturers here are busy. Spikes have again been advanced, and we now quote at 2.15¢, 30 days, f.o.b. at makers' works. Splice Bars remain unchanged at 1.80¢ @ 1.90¢ and Track Bolts at 2.75¢ and 2.85¢ with Square and Hexagon Nuts.

British Iron and Metal Markets.

[Special Cable Dispatch to The Iron Age.]

LONDON, WEDNESDAY, July 22, 1891.

The movement in Pig Iron warrants has been very narrow and prices have undergone but little variation in the absence of new features that would incite operations for long or short account. Holders of the bulk of warrants out assume an air of confidence in view of the absence of any considerable increase in stocks in public stores. The total now includes 508,000 tons Scotch and 148,000 tons Cleveland. Latest sales of warrants were at 47/ @ 47/1 for Scotch, 40/6 for Cleveland and 51/ for Hematite.

Pig Tin prices have been irregular, ultimately dropping over £1, despite light shipments to this point from the East during the first half of the month. The demand for consumption at present is moderate.

Copper prices receded about £2 during the week, under the influence of free offering of forwarders in quite large blocks and realizations by small holders. The recent selling, it is believed, has created a considerable short interest that may be an important factor later on. The visible supply has increased somewhat. Chili charters first half of the month were 500 tons. Sales of furnace material are lot. The latest included 800 tons Montana Matte at 10/6.

Tin Plates are slightly firmer, although inquiries are smaller and chiefly for Canadian and Continental account, without disposition to arrange for forward delivery. American demand is restricted and prices offered are lower than those received from other markets. The employees at P. S. Phillips' works (33 mills) ask that work be not resumed until grievances of the sheetage workers in the matter of wages are redressed.

Scotch Pig Iron.—Demand still runs light and prices are easy, with some brands 6d. lower.

No. 1 Coltness,	f.o.b. Glasgow.....	60/
No. 1 Summerlee,	" "	58/6
No. 1 Gartsherrie,	" "	58/6
No. 1 Langloan,	" "	60/
No. 1 Carnbroe,	" "	49/
No. 1 Shotts	at Leith.....	60/
No. 1 Glengarnock,	Ardrossan.....	59/
No. 1 Dalmellington,	" "	51/6
No. 1 Eglinton,	" "	50/6

Steamer freights, Glasgow to New York, 2/; Liverpool to New York, 10/.

Cleveland Pig.—Business dull and prices still more or less in buyers' favor. Makers quote 40/3 @ 40/6 for No. 3 Middlesborough, f.o.b.

Bessemer Pig.—There is only a moderate trade and prices are easy at 52/ for West Coast brands, Nos. 1, 2 and 3, f.o.b. shipping port.

Spiegeleisen.—Demand is fair and sales are chiefly at former prices. English 20% quoted at 95/, f.o.b. shipping port.

Steel Rails.—The market is very dull and makers offer at somewhat lower prices. Heavy sections quoted £4.5/, and light sections £4.15/ @ £5.15/, f.o.b. at N. W. England shipping point.

Steel Blooms.—Demand slow and prices as before. Makers quote £4.5/ for 7 x 7, f.o.b. at N. W. England shipping point.

Steel Billets.—Sales are moderate and at unchanged prices. Bessemer, 2½ x 2½ inches, quoted at £4.10/, f.o.b. at N. W. England shipping point.

Steel Slabs.—There is very little doing and prices remain without change. Bessemer quoted at £4.10/, f.o.b. at N. W. England shipping point.

Old Iron Rails.—No further change in prices, and the market quiet. Tees quoted at £2.15/ @ £2.17/6 and Double Heads £3 @ £3.2/6, f.o.b.

Scrap Iron.—Inquiry is light, and the offering moderate. Heavy Wrought Iron quoted at £2.10/ @ £2.12/6, f.o.b.

Crop Ends.—The market remains dull and featureless. Bessemer quoted at £2.15/ @ £2.17/6, f.o.b.

Tin Plate.—No change in the situation, and prices as quoted are greatly nominal. We quote, f.o.b. Liverpool:

IC Charcoal, Alloway grade.....	15/6 @ 15/9
IC Bessemer Steel, Coke finish.....	14/ @ 14/3
IC Siemens " "	14/3 @ 14/6
IC Coke, B. V. grade.....	13/3 @ 13/6
Charcoal Terne, Dean grade.....	13/3 @ 13/9

Manufactured Iron.—The demand for all varieties is moderate and prices are without change. We quote, f.o.b. Liverpool:

	£ s. d.	£ s. d.
Staff. Marked Bars	8 10 0	8 10 0
" Common "	6 10 0	6 12 6
Staff. Bl'k Sheet, singles	6 12 6	7 2 6
Welsh Bars (f.o.b. Wales)	5 12 6	5 15 0

Tin.—Slightly better demand at the close and the market steadier. Straits quoted at £90.10/ @ £91.12/6, spot, and £91 @ £91.2/6 for three months' futures.

Copper.—The market still unsettled, with slight improvement at the close. Merchant Bars quoted at £52.5/ @ £52.7/6 spot, and £52.17/6 @ £53, three months' futures. Best Selected, £58.

Spelter.—There is more demand and the market firmer at £23.17/6 for ordinary Silesian.

Lead.—Very quiet market and prices rather weak at £12.7/6 for Soft Spanish.

California may show at the World's Fair, as a part of its exhibit, the finest collection of minerals in the United States. Instead of making a special collection, as was done for the New Orleans, Philadelphia and Paris expositions, there is a strong probability that the State will send the magnificent collections belonging to the State Mining Bureau Museum. The State University has the collection of the State Geological Survey, the Voy collection, Hanks collection, Keene collection, and several others. These are all classified, arranged, identified and labeled. Each county and district in the State is properly represented. Every department of the mining industry has its separate place with locality indicated. No other State or territory of the Union has any such collection as belongs to California now.

Erastus Wiman draws a doleful picture of Canada, from a commercial point of view, under the so-called "National policy" hitherto advocated in that country. He says the result is that millions of acres of timber are burning and rotting to an extent even greater than consumption for the want of a market in the United States, where the standing timber to-day is less per head than in Germany; thousands of miles of fishing coasts are unoccupied and wasting, because of the need of a free near-by market. Mineral wealth unequalled in the world is silent and dormant and dead, because of the want of access to the great country next door. Agricultural areas of the broadest and richest character remain untouched and unproductive, while even now in the United States, with an immigration and increase of population unparalleled, a "land hunger" exists of the keenest character, and which cannot be appeased under existing conditions.

HARDWARE.

Condition of Trade.

TRAVELERS REPRESENTING the principal manufacturing and jobbing houses are going out and in some cases are being heard from, but the volume of business thus secured is not as yet large. Trade is generally referred to as promising exceptionally well, but the demand which is naturally expected during the latter part of July has not as yet set in with much vigor. It is, however, anticipated that the next two or three weeks will bring a marked increase in the volume of trade. The stock of goods in the hands of dealers throughout the country is certainly moderate, and in many cases light, and the jobbing trade are expecting to make provision for an active fall business. There is not, however, much disposition to make exceptionally large purchases, although prices in many lines are regarded as low and likely to recover if there is an improvement in the raw material or a spirited demand sets in. There is thus almost an entire absence of a speculative spirit, and while buyers are watchful to place orders at the lowest obtainable prices they are not especially eager to place large orders until the market shows some signs of improvement. The feeling is, however, quite general that present prices on many lines of leading goods are as low as they are likely to be, with some probability that those who wait for lower quotations will by and by be called upon to pay higher prices.

Chicago.

(By Telegraph.)

Shelf Hardware is not so active. Salesmen and clerks are taking vacations, and while less effort is being made to sell, on the other hand country merchants are not displaying much anxiety to buy. Farmers are very busy housing their crops and are not buying much Hardware. The best part of the trade now comes from towns in which building is active, and where Builders' Hardware is in good request. Among manufacturers' agents the week opened up with an excellent run of orders, indicating that jobbers are disposed to stock up now to some extent in anticipation of the usual fall trade. Staple articles have apparently touched bottom, and buyers feel that they can stock up with some safety. Carriage Bolts are not any higher than they were, but they have shown no symptoms of further weakness. Nuts are in about the same condition. Tin Plate is quite firm at the late advance, which now looks as if it can be maintained. Barb Wire is perceptibly firmer.

Sheet Copper is still nominally quoted at the association rate of 22¢, but 15% discount is very common, and large buyers can get still lower rates. The demoralization in this line is presumed to be caused by the efforts of association members to divert trade from outside manufacturers. Business in Heavy Hardware is very good, including Iron and Steel Wagon Stock, Carriage Material, Trimmings, &c.

St. Louis.

(By Telegraph.)

The Hardware trade shows some improvement since our last report. The general condition of trade is fairly satisfactory, and jobbers are quietly filling up their stocks so as to be in a position to ship promptly when the fall trade sets in, which is expected to be quite heavy. Retailers are buying only in small quantities to meet their actual requirements. Builders' Hardware is in good demand, and hot weather goods are also moving freely. There are no special changes in prices to note, which are on the whole fairly well maintained.

Notes on Prices.

Cut Nails.—The demand for Cut Nails, both Steel and Iron, is light and inquiries comparatively few, so that the market is in a sluggish condition. Prices are substantially the same as at our last report, but while certainly not quotably lower, buyers have no difficulty in placing orders at as low figures as have been offered any time during the present year. The consumption of Steel Nails in the East is referred to as gradually and quite perceptibly increasing on Iron, and it is getting to be a more frequent thing for the Atlantic Nail manufacturers to sell their Steel Nails at about the same prices as Iron. Nails in the Wheeling district are held at \$1.60 to \$1.65 at mill on a 25 or 30 cent average, slight concessions being made in special cases. Eastern Nails are quoted at \$1.50 to \$1.55 in round lots at mill, with the usual 25 or 30 cent average.

Chicago, by Telegraph.—Manufacturers' agents report a moderate demand for Steel Cut Nails. Wheeling mills adhere to their former quotations, but are selling very few Nails in this immediate district. The local mills have taken pretty much all the business recently done here and are now so well filled with orders that they have withdrawn quotations in the belief that prices will be advanced. The last price made here was about \$1.65, Chicago, for 30 cent average. Jobbers quote \$1.75 to \$1.80 from stock.

Wire Nails.—The Wire Nail market, without any quotable change in prices or any marked increase in the volume of business, seems to have a certain undertone of strength, induced by the feeling that prices are not likely to go below points recently touched, with some possibility of better prices ruling in the near future.

This feeling is encouraged by the indifference which some of the manufacturers manifest to orders for future delivery at present prices and their unwillingness to name figures as low as those which were obtainable a short time ago. While there still appears to be a constant though comparatively slow increase in the consumption of Wire Nails, it is a question whether this is not more than counterbalanced by the increased capacity of the mills—a fact which has an important bearing on the probable future course of the market. Quotations are on the basis of \$2 to \$2.05 for carload lots at mill, small lots from store being held at \$2.20 to \$2.25.

Chicago, by Telegraph.—Representatives of Wire Nail factories are not pressing sales. They are evidently expecting an early advance. Only a few of the manufacturers have signed the new scale for Nail works operatives. The other factories are idle and it is not known when they will resume, nor are the intentions of the owners known with regard to signing the scale. The stoppage of only a few of the large factories for a couple of months would make quite a gap in the Wire Nail supply. Factory lots are available at \$2.05 @ \$2.10, Chicago. Jobbers quote \$2.15 from stock and \$2.10 in carloads.

Barb Wire.—There is little doing and prices are unchanged. The tone of the market is, however, firm in view of the negotiations which have been progressing with reference to a further organization of manufacturers to regulate prices and market goods. While there has been some delay in the consummation of the arrangements it is understood that they are not abandoned, and it is thought by some well-advised parties that the matter will be concluded before long.

Chicago, by Telegraph.—Demand is light, but jobbers now quote \$2.80 for Painted, and are not disposed to sell freely at that. They say they will get 20 cents per hundred more next month, when they expect manufacturers' prices to advance.

Glass.—Reports from factories state that the demand for Glass is fair, with no change in prices. There is considerable speculation as to the outcome of the wage question, and what effect it will have on the market. It was understood about the first of July that the manufacturers would suggest a reduction in wages when the works started up in September, and that the operators would make a strong fight against any reduction in pay. Some factories are sending memorandums of the assortments of Glass on hand to jobbers, and offering to deliver the Glass at a discount somewhat better than 85 per cent. Local demand for Glass is light and prices remain unchanged on the basis of American Window Glass, for carloads, 80 and 10 per cent. discount; less than car lots, 80 and 5 per cent. discount; French Window Glass, 75

Coal Hods.—The demand in Coal Hods appears to have been of large volume, and several of the manufacturers report that they have about disposed of their production. Prices are not materially different from those which ruled last season, but there is some unevenness in the quotations made by different manufacturers, some in the East naming lower prices than those which prevail in the West. Quotations are frequently made in the form of net prices. The market is characterized by a good tone and manufacturers are anticipating that their business for the season will be exceptionally large.

Apple Parers.—By a typographical error so obvious that the trade were fortunately not misled by it, some of the Apple Parers made by L. A. Sayre, Newark, N. J., were incorrectly quoted in our last issue. The correct prices on his entire line are as follows:

Eclipse, per dozen.....	\$4.25
Favorite, per dozen.....	5.25
Ideal, per dozen.....	4.00
Monarch, per dozen.....	13.50
Waverly, per dozen.....	4.00

Trade Items.

THE NUBIAN IRON ENAMEL COMPANY, Cragin, Ill., propose early in the month of August sending out a card to the retail trade of the United States and Canada, calling especial attention to Bonnell's Nubian Iron Enamel, and giving a list of wholesale dealers handling Nubian. As they do not wish to sell the retail trade direct, all jobbers handling these goods are requested to notify the manufacturers.

THE BRYDEN HORSE SHOE COMPANY of Catasauqua, Pa., are sending out a very handsome souvenir, which will be found exceedingly handy. It is in the shape of a memorandum book, compact enough for the vest pocket, and on the outside cover has a calendar covering the period from July, 1891, to July, 1892. It is neatly bound in leather, the cover being celluloid, with calendar on one side and the Boss trade-mark on the other.

IT IS ANNOUNCED by Holloway & Gades, New Orleans, La., that having gone into liquidation with the intention of retiring from the Hardware business they have sold out their entire stock and good will to their friends, the Rice-Born Hardware Company of the same city, for whom they bespeak a continuance of the patronage formerly extended to them. The Rice-Born Hardware Company, in calling attention to this purchase, state that in addition to the stock acquired their own stock embraces many lines not carried by Holloway & Gades, mentioning also that with their exceptional facilities for shipping and ability to quote low prices they are in a position to attend to the wants of their customers in a satisfactory way.

AVERY & OPDYCKE is the name of a new firm which has commenced the Hardware business at Portland, Ore. The firm is composed of V. A. Avery, formerly of Dayton, Hall & Avery of Portland, and W. D. Opdycke, formerly head salesman and for the last six years buyer for that house.

J. E. STEVENS, dealer in Hardware, Stoves, Tinware and House-Furnishing Goods, Coleman City, Texas, has been succeeded by a new firm, the style of which is J. E. Stevens & Son.

THE CHICAGO AXE AND TOOL COMPANY an organization composed of Chicago and Bay City, Mich., parties, have purchased

the plant and stock of the Chicago Axe Company, Hammond, Ind., but not yet having received their charter they have had no election of officers.

THE MATTHEWS & WILLARD MFG. COMPANY, Waterbury, Conn., are bringing out an entirely new line of artistic Brass goods, such as Lamps, Tables, &c., in gold, silver and onyx. The goods manufactured by this concern include Stove Trimmings, the Waterbury Tubular Lantern and the Waterbury Curry Comb.

G. W. LYONS, Watertown, N. Y., is the inventor of the Success Can Opener, put on the market by Peck, Stow & Wilcox Company, Southington, Conn., and New York, a description of which was given in *The Iron Age*, June 25.

MANUFACTURERS may be interested in the advertisement signed "J. B." in the Special Notices in this issue. It will be observed that in it the advertiser announces his desire for a position as superintendent in a manufacturing establishment, and refers to his experience.

WE ARE INFORMED that there has of late been a marked increase in the demand for Usable Hot Forged and Cold Hammer Pointed Horse Nails, manufactured by Ausable Horse Nail Company, 4 Warren street, New York. This is referred to by the company as a natural result, and as attesting the superior quality of the Nails in point of toughness, uniformity and finish. The allude to their advertisement in *The Iron Age* as having created a strong desire on the part of dealers and consumers who have not sold or used them to try the Nails, and the result has been the increased consumption and popularity of the goods. The company call especial attention to the fact that the Nails being thin and narrow in the blade, accurately pointed and of just the right stiffness to avoid all danger from buckling, are safe and reliable, easy to drive and without danger to the foot of the horse. The manufacturers will be pleased to send samples, as well as prices, to those who are not familiar with the goods.

TIPS & HEBERER, Runge, Texas, are building a store 35 x 80 feet which will be occupied by them as dealers in Hardware, Implements, &c., about August 1.

KELSEA & CO., manufacturers of the Rival Apple Parers, have moved their works to Rochester, N. Y. The machines will be made as thoroughly as heretofore, and in their central location the manufacturers expect to fill all orders without delay.

THE TRADE WILL OBSERVE the striking advertisement of McKinney Mfg. Company, Allegheny, Pa., in which they call attention to the important line of Hinges and Butts which they are putting on the market.

BODE HARDWARE COMPANY, Cincinnati, Ohio, announce that on and after July 15 they will occupy the building at 180 Main street, in that city, which they have completely remodeled, and where with increased facilities they will be able to handle all goods pertaining to the Hardware line to better advantage than heretofore.

THE PARTNERSHIP heretofore existing under the firm name of Dayton, Hall & Avery, Portland, Ore., was dissolved by mutual consent on July 1, Victor A. Avery retiring. Frank Dayton and Robt. F. Hall will continue the business under the firm name of Dayton & Hall, assuming all liabilities and collecting all claims.

IN THE EXTENDED DESCRIPTION which is given in the advertisement of the Eclipse Nail Puller which occupies page 52 of this issue, attention is directed to the construction and special features of the

Puller, and reference made to the advantages which it possesses. The trade will also be interested in the announcement that on and after the 25th inst. it will be sold only by salesmen direct to the consumer.

J. M. KING & CO., Waterford, N. Y., have for some time been making the No. 60 Stocks and Dies, and have recently been listing them in a regular way.

T. C. WARD, Rochester, N. Y., who is putting on the market the Springs formerly made by Titus & Babcock, announces that on and after August 1 his office and silesroom will be 108 Genesee street, Auburn, N. Y., where he hopes to receive a continuance of the patronage of the trade.

Export Notes.

THE EXPORT TRADE to all markets outside of the South American countries continues the same as usual with the exception that possibly orders from Australia are a little slower on account of stock-taking and for other special reasons. The shearers' strike is evidently a very serious matter and has had much influence in interfering with the regular course of trade. The merchants have carried over large stocks and are accordingly showing a very conservative disposition about placing orders. The strike is not yet settled, though it is hoped that it will soon be terminated in a satisfactory manner. The disturbance caused by it with the interference in business by the general election combine to make business quiet. The financial situation in the colonies has not improved materially owing to the disappointment experienced in placing the entire loans of the different colonies. There have recently been in this city quite a number of buyers from the countries referred to, and we learn of quite large orders having been placed. As to freight matters, the rates continue about the same, with some chance of improvement in the near future. Both the regular shippers and the outsider line continue the warfare.

Regarding the Queensland loan, we learn that a syndicate has now offered to take the balance which has not yet been placed, and if this is done, great improvement in business in that colony will result. The South African markets continue in fair condition.

The American Wringer Company.

THE FORMAL announcement of the consolidation of the principal Wringer interests of the country has been made under date July 1, with particulars concerning the organization of the American Wringer Company. This is a stock company incorporated under the laws of the State of Rhode Island for the purpose of carrying on the manufacture and sale of Clothes Wringers and other household articles. It has acquired and succeeded to the business of the following well-known concerns :

Metropolitan Mfg. Company, New York, established 1860.

Bailey Wringer Machine Company, Woonsocket, R. I., established 1865.

F. F. Adams Company, Erie, Pa., established 1869.

Empire Wringer Company, Auburn, N. Y., established 1872.

The directors of the company are Joseph Banigan, R. C. Browning, Geo. Reuter, Jr., Lyman A. Mills, W. T. Farrar, A. G. Beardsley, Jr., W. S. Granger, W. S. Ballou and J. F. Hemenway. The officers being as follows:

Joseph Banigan, president.

Geo. Reuter, Jr., general manager.

J. F. Hemenway, assistant general manager.

F. W. Barney, treasurer.

W. S. Ballou, secretary.

The company are formed, it is stated, in the interest of a reasonable economy in the manufacture and sale of the goods heretofore dealt in by the several concerns which they succeed, and they will employ their increased facilities and superior advantages to produce Clothes Wringers and other household specialties of the highest quality at the least cost, and will furnish them at the lowest price at which similar goods are sold anywhere. The affairs of the company are under the same management, and their general offices are at 99 Chambers street, New York, these commodious quarters being under the charge of Geo. Reuter, Jr., the general manager. The price-list about being issued by the company will be found in a preceding column.

The Amenities of Business.

THE FOLLOWING letter, addressed to well-known Axe manufacturers by a leading New England Hardwareman, will repay perusal. It would appear that the manufacturers had been making some promises which they were tardy in fulfilling, and the letter was apparently written in reply to a brief and unsatisfactory communication still further delaying the matter:

Your very brief and especially valuable communication of March 7 of the current year is before me. This was received by me when the biting winds of March were howling about our ears and our landscape was covered over with the fragments of the past winter's snows and ice. The Axe trade had nearly, if not quite, come to an end, and was as unsatisfactory, disagreeable and disgusting in every way as the weather outside. It is vain for me to attempt to describe to you the pleasure with which I read your letter, which promised me a visit from your beautiful State at an early day. I could almost see the roses bloom, and, in my imagination, could hear the beautifully plumbed birds sending their songs heavenward. Having in song and story read of the famous hospitality of your State, and desiring to be in no way deficient in my welcome, I set a man to watch, that we might see you from afar, and be sure to bid you a cordial greeting within our gates. Gentlemen, the watchman has grown old and blind and feeble and weary and worn with waiting, and I have been obliged to haul him off and set him to haying. Your rusty old Axes lie out in the back room, just as they did last winter. Now, are you coming up here to straighten this matter out or not?—that is the question.

Price-Lists, Circulars, &c.

CHAS. J. HEALY, 106 Chambers street, New York, quarrier and manufacturer of Belgian Razor Hones, German Water Hones, Turkey Stones, Emery Knife Sharpeners, Emery Scythe Stones, &c.; also importer, exporter and manufacturers' agent of American, German, English and French Hardware and Cutlery. His catalogue, under date July 1, 1891, contains illustrations and price-lists of a large line of imported Hardware. He is headquarters in this country for Belgian Razor Hones and Turkey Stones, and also sole agent for American Square Company, Union Lock Company, American Gun Locks, Healy's Warranted Interchangeable Pliers, Nippers, &c.; Frary's Patent Cork Screws and Curling Irons; Nickel-Plated Cast Shears; Manby's Razors, special brands; German and English Pocket Cutlery; Leman Rifles, Razor Hones, Turkey Oil Stones and Chamois Skins.

VAN CAMP HARDWARE AND IRON COMPANY, Indianapolis, Ind., issue a handsome and well-arranged illustrated catalogue of over 60 pages, relating to their Gun department, including Guns, Revolvers, Sportsmen's Clothing, Ammunition, Dog Furnishings, &c. They advise the trade that, in presenting this their annual Gun catalogue, they have endeavored to enumerate the various styles and makes of Fire Arms as correctly and concise as possible. They state that, from the immense stock which they constantly carry, their patrons can be assured of prompt shipment, careful selection and the lowest possible price consistent with first-class goods.

CHAMPION BOLT CLIPPER COMPANY, Evansburg, Pa.: Champion Bolt Clipper, Excelsior Bolt Clipper, Champion Nail Head Nipper, Hoof and Clinch Nipper, Clinch Nippers, Buffers, Sole Knives, Clinch Tongs, Vise Jaws for coach makers, Fore Punch, Creasing Fuller, &c.

THE KILBOURNE & JACOBS MFG. COMPANY, Columbus, Ohio: Trucks. This is a revised catalogue devoted to Trucks, Baggage Barrows, &c., and contains several new articles. The manufacturers call attention to the fact that all Trucks of their manufacture are made of the best material, the lumber being carefully selected and well seasoned, and that all axles are forged and turned, and wheels bored. The axles and collars are forged from one piece of metal by special machinery. Special attention is given to the construction of special Trucks for all purposes.

UNION MFG. AND PLATING COMPANY, Chicago, Ill.: Hardware and Notion Specialties. They call special attention to their facilities for executing promptly all orders for job work in nickel and fancy plating and polishing. They make a specialty of contracting with bicycle and stove manufacturers for high-grade work of this kind. A sheet accompanies the catalogue, on which are enumerated the goods manufactured by them. They will quote best discounts by return mail on the items checked.

It Is Reported—

That the Hardware stock of James Gray, Fort Wayne, Ind., has been purchased by Schulte & Frederick.

That the Gila Bend Hardware and Lumber Company, Gila Bend, Ariz., have been incorporated by H. E. Kemp, O. L. Pease, J. M. Gregory, Eugene Caruthers and E. A. Stout.

That Kimball & Bruce have purchased the Hardware business of Rhodes Bros. at Corinth, N. Y.

That Chester R. Converse has bought a half interest in the Hardware store of A. J. Nichols, Wellsborough, Pa. The style of the new firm is Nichols & Converse.

That the firm of Andrews & Ballsmith, dealers in Hardware, Guns, Stoves, &c., Attica, N. Y., has been dissolved, Mr. Andrews having sold his interest to W. C. Moritz. The firm will be hereafter known as Ballsmith & Moritz.

That the Mitchell Hardware Company's building in Cleveland, Ohio, was damaged by fire to the extent of \$85 on the 15th inst.

That Ladd & Leslie are a new Hardware firm at Middlesborough, Ky.

That R. J. Clark & Co., dealers in Hardware, Saginaw, Mich., have disposed of their business to Brownrigg & Jochen, who will continue it at the old stand.

That an interest in the Implement and Hardware store of Murphy & Cannon, Logan, Ohio, has been purchased by Joseph Payne, and Mr. Murphy will retire.

That J. P. Ford of Parish, N. Y., has purchased the Hardware stock of C. D. Rounds, Lacona, N. Y.

That W. J. Thompson has opened a Hardware store at Yarmouth, N. S.

That H. Clemens & Co., Luzerne, N. Y., have sold their stock of Hardware, Stoves, &c., to Hall Bros., who will hereafter handle it at the old stand.

That Frank Rose has sold his interest in the Hardware business at Savannah, N. Y., to R. H. Kelley, who will continue the business with A. W. Evans under the firm name of Evans & Kelley.

That C. B. Butler is contemplating starting in the Hardware business at Homer, Ill.

That Wm. P. Ritterskamp & Co. will be the proprietors of a new Hardware and Stove store at Vincennes, Ind.

That Priest & Brock have sold their stock of Hardware at Russellville, Ind., to George Barnes.

That Mr. Gibbs will soon open a new Hardware store at Madison, Ill.

That E. C. Smith's Hardware, Stove and Gun store at Pipestone, Minn., was damaged by fire and water on the 11th inst. That the loss on stock was \$1500, on which there is an insurance of \$2500. The building was damaged to the extent of \$500.

That F. B. Tupper has purchased Mr. Greer's interest in the Stubbs Greer Hardware Company, Brunswick, Ga. The style of the firm will, however, undergo no change.

That John Townsend has purchased the stock of Hardware formerly owned by M. D. Alger, Rome, N. Y.

That W. H. Davis will open his new Hardware store at Michigan City, Ind., in a few days.

That D. P. Hazelton will open a Hardware store at Columbus, Kan., having purchased the entire stock of Henderson & Huntley, Carthage, Mo., which will be moved to the former place.

That J. C. Leslie & Co., Nappanee, Ind., have sold out their Hardware stock to B. & H. M. Shively.

That C. L. Porter, dealer in Hardware, Port Jervis, N. Y., has sold out his business to Mr. Sprague of Liberty, N. Y.

That the improvements which J. H. Guernsey has been making in his Hardware store at Waterbury, Conn., are nearly finished and his establishment is now an especially attractive and spacious one.

That N. H. Lee has withdrawn from the Stove and Hardware firm of Lee & Phillips by mutual consent. Stanley A. Phillips will carry on the business.

That H. C. Mason has just bought out the Hardware, Stoves and House-Furnishing stock of Leo Peasley at Eldon, Iowa.

Exports.

PER BRIG HAVILAH, JULY 3, 1891, FOR CAPE TOWN, SOUTH AFRICA.

By J. Metzger & Co.—2 cases Hardware.
By H. W. Peabody & Co.—100 reels Barb Wire, 183 cases Agricultural Machinery.
By W. B. Fox & Bro.—1 case Hardware.
By W. H. Crossman & Bro.—35 dozen Hardware, 5 Washing Machines, 6 gross Stove Polish, 1 dozen Hardware, 31 cases Hardware, 4 cases Sash Weights, 2 dozen Sash Cord, 1 case Plow Parts, 3 cases Hardware, 5 cases Sash Weights, 3 dozen Sash Cord, 10 dozen Hardware.

PER BARK AURORA, JULY 6, 1891, FOR CAPE TOWN, SOUTH AFRICA.

By Coombs, Crosby & Eddy.—6 Road Scrapers, 10 Freezers, 3 dozen Knives, 2 dozen Hatchets, 2 Refrigerators, 12 dozen Fly Traps, 16 dozen Hardware, 2 Corn Mills, 13 dozen Traps, 2 dozen Saws, 100 reels Barb Wire, 88 kegs Nails.
By Strong & Trowbridge.—12 Scales, 6 dozen Axes, 1 dozen Wire Mats.
By the Johnston Harvester Company.—102 cases Reapers and parts.
By W. A. Wood.—75 Reapers, 15 Harvesters and Binders.
By Arkell & Douglas.—5½ dozen Churns, 4 Washers, 9 dozen Axes, 2 dozen Ladders, 18 dozen Fly Traps.

PER SHIP HOLYROOD, JULY 1, 1891, FOR MELBOURNE, AUSTRALIA.

By Coombs, Crosby & Eddy.—30 dozen Mouse Traps, 18 Meat Choppers, 30 dozen Axes, 15 dozen Hatchets, 4 dozen Wringers, 1 dozen Miter Boxes, 36 dozen Butts, 46 dozen Carpenters' Tools, 39 gross Hardware, 12 dozen Locks, 3 dozen Hand Screws, 12 dozen Traps, 18 dozen Saws, 19 dozen Hatchets, 29 dozen Spades, 18 dozen Hardware, 6 dozen Hammers, 64 dozen Hardware, 200 dozen Tacks, 10,000 Cartridges, 1 dozen Wringers, 2 dozen Hay Forks, 3 dozen Wrenches, 23 dozen Plated Ware.
By W. H. Crossman & Bro.—5½ dozen Wringers, 504 pounds Nails, 2000 feet Fire Hose, 20 cases Hardware, 1 dozen Miter Boxes, 20 dozen Axes, 5 cases Agricultural Implements, 300 pounds Nails, 4 dozen Wrenches, 3 cases Hardware, 3000 pounds Nails, 3 dozen Braces, 1 gross Graters, 3 cases and 19 packages Hardware, 15½ dozen Bells, 800 pounds Iron Nails, 6 Stoves, 23,000 Iron Bolts, 16 cases Hardware, 540 pounds Iron Nails, 13 dozen Cow Bells, ¾ dozen Meat Cutters, 4 dozen Call Bells, 126,000 Rivets, 6 dozen Bush Hooks, 31 dozen Axes, 2 dozen Drawing Knives, 10 dozen Bench Screws, 4 cases and 7 packages Hardware, 7 dozen Hog Rings and 8 dozen Ringers, 72 dozen Files, 6 cases Hardware, 9 cases and 8 packages Pump Parts, 11,000 Loaded Shells, 100 Paper Shells, 5000 Wads.

By R. W. Forbes & Son.—13,713 pounds Manila Paper, 8 cases Saws, 7000 Carriage Bolts, 3 cases Plated Ware, 3 packages Carriage Hardware, 28,700 Carriage Bolts, 50 sets Axes, 1 case Revolvers, 26,000 Cartidges, 24 Lawn Mowers, 4 cases Lampware, 6 Refrigerators, 15 cases Tools, 2 cases Hardware.

By F. H. Goble.—50,000 pounds Binder Twine.
By Atlas Tack Company.—2240 pounds Nails.
By W. K. Freeman.—4 packages Plated Ware.
By J. McEwan & Co.—3 cases Hardware.
By E. Miller & Co.—9 barrels Lamp Goods.
By McLean Bros. & Rigg.—596 packages Agricultural Implements.

By F. B. Wheeler Company.—2 cases Carriage Hardware, 15 cases Axes.
By H. B. Moore.—2 Refrigerators.

By H. W. Peabody & Co.—506 cases Agricultural Machinery.

By Mailer & Quereau.—20 cases Loaded Shells.

By Henry W. Peabody & Co.—2 cases Emery Wheels, 2 cases Hardware, 13½ dozen Wringers, 150 dozen Edge Tools, 21 packages Hardware, 8 cases Hardware, 10 dozen Edge Tools, 3 packages Lamp Ware, 1 case Silver-Plated Ware, 1 case Rivets and Burrs, 3 packages Hardware, 310 pounds Nails, 3 packages Silver-Plated Ware, 10 cases Horse Nails, 10 tons Barb Wire, 10 cases Carpet Sweepers, 38 bundles Barb Wire, 37 packages Edge Tools.

By William E. Peck.—60 reams Sandpaper, 2 cases Sandpaper, 2½ dozen Carpet Sweepers.
By R. H. Dana & Co.—1 case Rifles, 60 cases Axes, 3 cases Bird Cages, 25 cases Axes, 1 case Hoes, 2 cases Hardware.

PER SHIP GEO. T. HAY, JULY 3, 1891, FOR SYDNEY, N. S. W.

By Rogers, Smith & Co.—11 packages Plated Ware.
By P. D. Ackerman & Bro.—2 packages Plated Ware.

By Collins & Co.—230 dozen Handled Axes.
By B. F. Avery & Sons.—8 packages Plows.
By Meriden Britannia Co.—20 packages Plated Ware.
By Edward Miller & Co.—77 packages Lamp Goods.
By Sargent & Co.—8 packages Bench Screws, 15 cases Hardware.
By J. McEwan & Co.—4 cases Hardware, 2 cases Saws.
By Simpson, Hall, Miller & Co.—25 packages Plated Ware.
By W. K. Freeman.—1 case Saws, 1 package Scales.
By H. W. Peabody & Co.—2 cases Plated Ware.
By R. W. Forbes & Son.—6 dozen Carpet Sweepers, 90 gross Pencils, 6 dozen Wringers, 30 cases Lampware, 51 Lawn Mowers.
By Strong & Trowbridge.—27 dozen Tools, 1 dozen Wrenches, 1 dozen Hardware, 1 dozen Parers.
By McLean Bros. & Rigg.—48 dozen Saws, 40 dozen Axes, 32 Freezers, 15 Scrapers, 48 dozen Hatchets, 64 Refrigerators, 6 dozen Meat Choppers, 20 dozen Cow Bells, 6 dozen sets Sad Irons.

By John G. Rollins & Co.—26 dozen Hatchets, 1 dozen Grindstones, 30 dozen Hammers, 6 dozen Broilers, 1 dozen Lamps, 2 dozen Meat Choppers, 224 pounds Nails, ½ dozen Lamps, 20 dozen Broilers, 12 dozen Lampware, 4½ dozen Planes, 1 gross Nutmeg Graters, 12 dozen Axes, 30 dozen Jacks, 1½ dozen Stoves, 2½ dozen Wringers, 2 Portable Forges, 4 dozen Door Knobs, 18 dozen Pulleys, 5 Planes, 1506 pounds Carriage Bolts, 1½ dozen Stencils, 5 dozen Padlocks.
By V. Basanta.—6 dozen Rifles, 12 dozen Guns, 10 dozen Axes, 23 dozen Lemon Squeezers, 12 dozen Egg Beaters, 5 gross Fruit Jars, 6 Money Drawers.

Paints and Colors.

It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.

In most departments trade has been rather quiet. The leading Pigments are taken in moderate quantities only, as immediate wants may dictate, and it would appear from the general report that there is not more than the usual amount of painting for this season of the year going on in this vicinity or at other points reached by local merchants. In Mixed Paints and Oil Colors business has been almost at a standstill, owing to a firm belief on the part of buyers that the lower cost of Oils should eventually bring about some modification of prices in the lines mentioned. This impression was strengthened by the announcement of a further reduction in Oil prices on the 20th inst., and there is practical admission by some Paint manufacturers that a revision of prices would be advisable. Cheap Oil, in their opinion, is here to stay, and it is the opinion of a number of firms that an adjustment of prices to the new order of things would prompt a general replenishing of broken assortments by dealers.

White Lead.—Orders for pure pigment having been running rather light this week, but the falling off is no greater than usual during midsummer. In some quarters the belief is expressed that the late advance in corrodors' prices has diverted more or less trade to the cheaper varieties; but in this connection it may be remarked that manufacturers of mixed Leads, as well as the corrodors, find trade somewhat slower than it was during the early part of the month.

Zincs.—New orders for American Oxide are running rather light at present, but, in helping out the disabled establishment and making deliveries on their own contracts, manufacturers work their product off very closely. Prices are firm and unchanged. Foreign brands are not selling quite as freely as they were a week or two ago, but the movement is still very good and at old prices.

Colors.—Grinders' specialties are meeting with about the usual movement, and prices show but slight variation. Dry Colors for painters' use, are momentarily

quiet, yet selling to an extent that suffices to hold values quite steady. Oil Colors, for reasons stated above, are almost neglected, but, with modified prices generally adopted, a livelier movement would doubtless take place.

Oils and Turpentine.

Trade has been rather more animated in some branches of the Oil trade, with enough variety to make matters interesting and break into the monotony that has prevailed for some little time past. In the Linseed line, for example, hostilities have continued, with the effect of causing a further reduction in prices. Enhanced cost of raw material has served to stiffen prices and stimulate business in Lard Oil. After contesting stubbornly, consumers have stepped in and purchased crude Menhaden Oil with some freedom, and interest in Cotton-Seed products has revived sufficiently to harden prices for those goods. It is generally believed that supplies in distributors' hands are moderate, and that it would not require a great deal to get the fall season movement going, rather earlier than usual.

Linseed.—City crushers have met a lower line of prices quoted by Western competitors and now offer domestic seed product at 42¢ per gallon. Just what the Western interest would do in return is uncertain, but, judged by requests for bids, it may be presumed that offers of 40¢ for carload lots would be jumped at by more concerns than one, and that some who have a rather burdensome supply on hand would shade that price. Rivalry is undoubtedly responsible in a good measure for the depreciation in value, but there are circumstances which indicate that cheap Oil will be something more than a temporary affair. A large stock of seed has been carried over from the last crop, and the new crop, from all accounts, will be very heavy, making altogether an apparent supply that must necessarily keep cost down to a point considerably below the late average. It is no secret, however, that the "trust" element have not abandoned the idea of combining all the crushers, and the probabilities are that the screws will be put down tightly until success or defeat is assured.

Cotton-Seed Oil.—Spot parcels of "off" grade crude have been sold at 23¢ @ 28¢. There is very little stock of prime quality and prices for the same cannot be quoted with any accuracy. Refined has been moving very fairly, chiefly in moderate-sized lots, at prices slightly above the range quoted heretofore. There is still a moderately active demand for spot stock for export, and some negotiation on new crop, the outcome of which will probably be a good movement in the near future, unless sellers pitch their ideas of value too high.

Lard Oil.—City pressers are now quoting 58¢ @ 54¢ for ice-pressed Oil, and 52¢ is the lowest price named on Western brands. Those figures are hardly on a level with the higher cost of raw material, and demand, which started in good at the beginning, is still running fairly large.

Menhaden Oil.—The combine have placed about 1500 barrels good merchantable quality crude at 26¢, and smaller sales by outside manufacturers, to the extent of 500 barrels, have been made at 25¢. This has served to start the ball a-rolling, and a livelier market is looked for. The future of prices depends a great deal upon the catch of fish, which, up to the present, has been moderate.

Spirits Turpentine.—Supplies in this market have increased to about 2500 barrels, and there are now about 17,000 barrels at Southern seaboard. This large stock, along with every tame demand, keeps the market in a rather unsettled condition. Prices have dropped to 36½¢ for plain and 37¢ for machine barrels.

K. & J. No. 1 Wheel Scraper.

Kilbourne & Jacobs Mfg. Company, Columbus, Ohio, are offering a wheel scraper, as illustrated in Fig. 1, which represents it in carrying position. Fig. 2 shows it with end gate in carrying posi-

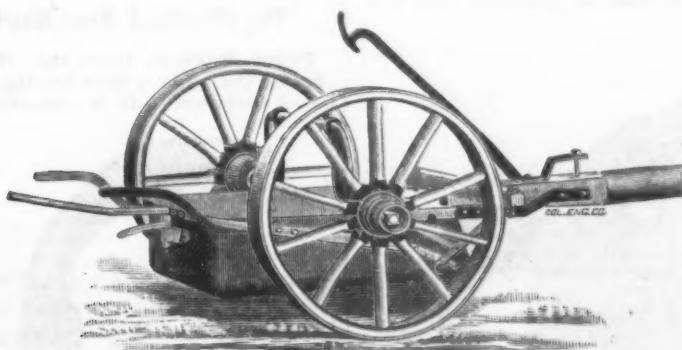


Fig. 1.—K. & J. No. 1 Wheel Scraper.

tion. It is described as having the bowl made of the hardest and best steel, being 34 inches long by 34 inches wide and 11 inches deep. Pressed bowls or square boxes are furnished, as ordered. The wheels have heavy iron hubs; are 34 inches in diameter with tire 3 inches wide. By disengaging the latch from the scraper and raising the lever the scraper is lowered to the ground in position to fill. When

it consists of four pieces, the uses of which are as follows:

Part D (the extractor plug) is furnished with a point to knock out the primer, and serves to insert the new primer, as herein-after described.

Part C is a nut with a left-handed screw, which is removed to place the cartridge in the die, and which is replaced to hold the same during the process of loading. It

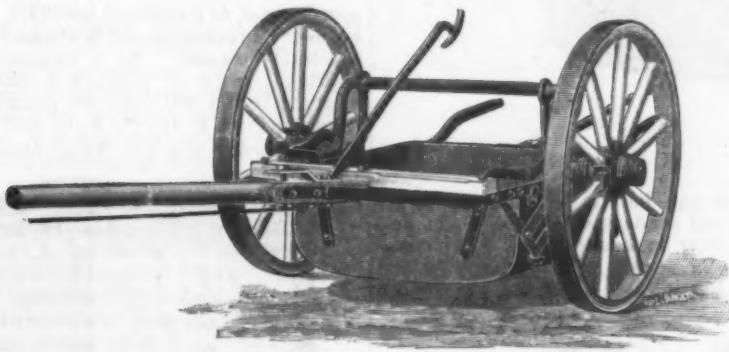


Fig. 2.—K. & J. No. 1 Wheel Scraper with End Gate.

filling and while the team is in motion the operator bears down on the lever until the hook catches on back of the scraper. When ready to dump, the lever is raised until the point of the scraper catches in the ground, when the scraper bowl revolves and dumps the load. The points of excellence are referred to as being the patent automatic lock hooks; independent

is furnished with a groove, serving to straighten the mouth of the shell.

Part B, when turned about the die A, by means of its handle, carries the nut C down upon A, forcing the contained cartridge into the die A.

Part A carries the sizing and reloading die, and is furnished with a handle as shown. This die is the vital part of the tool. The greatest care is taken to make it to the exact size and to give it a fine



Model 1891 Reloading Tool.

steel axle, bifurcated compound lever, steel bowl and improved wheels. The manufacturers claim that this scraper is so constructed as to do away with objectionable features, and recommend it as a first-class earth-moving implement.

finish. This model will only be made for the following sizes of cartridge: 32-40, 38-55, 38-56, 40-65, 40-92, 45-70-405, 45-70-500, 45-90, 50-110 Ex.

The manufacturers advise us that the tool is meeting with good success.

Standard Steel Charging Barrow.

The Kilbourne and Jacobs Mfg. Company, Columbus, Ohio, are introducing an all iron and steel charging barrow, as illustrated in Figs. 1 and 2. The box or bowl is made of steel plate and $\frac{1}{4}$ inch steel angles, all firmly riveted together. The sides are of No. 10 gauge steel, and the bottom of the barrow, from back to mouth, of No. 6 gauge. An extra plate or false bottom of No. 10 gauge steel, 12 x 24 inches, is riveted in the bottom to



Fig. 1.—Standard Steel Charging Barrow.

break the fall of iron ore when thrown into the barrow. The mouth of the barrow is re-enforced by an extra piece of steel plate, and a solid band of iron is riveted entirely around the top edges of the barrow. The axle is of 2-inch square steel. The wheels are provided with anti-friction, or roller, bearings, which do not require oil. The double spokes are of wrought iron, riveted, $1\frac{1}{2}$ x $\frac{1}{4}$ inches, hubs are cast around the spokes. The roller bearing is stationary inside the hub, so the wheel may be easily removed any time desired. The wheels have a diameter of 34 inches, with $2\frac{1}{2}$ -inch tire, $\frac{1}{4}$ inch thick. The drag wheel is $6\frac{1}{2}$ inches in diameter and is at-



Fig. 2.—Standard Charging Barrow.—Dumping Position.

tached to the bottom and sides by a heavy three-pronged, wrought-iron hanger. The handles are 12 inches long, but can be made longer if so ordered. The capacity of the No. 1 barrow is 10 cubic feet, 1500 pounds of iron ore, or 500 pounds of coal; weight of barrow complete is 630 pounds. It is designed for use as a stock barrow for blast furnaces and gas works, also for coal docks, boiler rooms, &c. The manufacturers claim that it is easy running and that one man can easily handle it when loaded to its fullest capacity with any substance not heavier than iron ore; also, that it is easy to push, easy to dump, and that no second man is needed to load, push or dump it.

Signal Oil Can.

Patent Development Company, 35 Warren street, New York, are introducing a gallon oil can, as illustrated herewith. An air tube is extended from the can to the outer end of the oil spout, and a wheel is within a glass covering directly over the oil spout and underneath the air tube.

wheel stops revolving when the oil ceases to flow. It is stated the can is made of a heavy quality of tin.

Power Hack Saw.

Millers Falls Company, 93 Reade street, New York, are putting on the market a power hack saw, as illustrated herewith.

*Signal Oil Can.*

The can itself is referred to as being air tight. When filling a lamp the spout is inserted to the ring, and it is claimed that the flow of oil is stopped at a proper point. This is accomplished by the oil in

The saw can be run by hand or steam power, and is adapted to their 10, 11 and 12-inch Star hack saw blades. The material to be sawed is held firmly in the clamp, and the saw works clear of the top

*Power Hack Saw.*

the lamp reaching a point where it covers the end of the oil spout, thereby closing the air tube. The wheel revolves as long as the oil is flowing into the lamp, and, as a signal or notice that the lamp is full, the

of the bench frame. The saw runs 40 strokes per minute, and works without attention. It is claimed that one blade used in this frame will do ten times as much work as is usually done with it by hand,

as the speed and pressure are regulated, and are uniform; and that one blade will cut off a steel shaft 5 inches in diameter several times. The manufacturers state that they are using a number of these machines in their factory, and that they are giving the greatest satisfaction.

The Cleveland Hose Handle.

Fuller Brothers, Cleveland, Ohio, are offering the trade a hose handle, as illustrated herewith. It is described as a

*The Cleveland Hose Handle.*

simple device which can be attached to any garden hose, and also readily attached to the coupling by means of two set screws, the handle also giving protection to the hose next to the hydrant where it is the most liable to break.

Kiel's Self-Weighing Powder Case.

A. B. Kiel & Co. of Montrose, Iowa, are offering to the trade a self-weighing powder case, as illustrated herewith. This has many advantages and is claimed to be absolutely correct. As a receptacle for holding powder it presents a handsome appearance and will hold 25 pounds. It is adapted for F. G., F. F. G. and F. F. F. G. powder and will weigh automatic-

*Kiel's Self-Weighing Powder Case.*

ally any quantity from 1 ounce to 1 pound. On the front of the case is a dial indicating ounces, and over this an index finger glides. When any number of ounces is desired the index finger is placed over the same number as indicated on the dial, and after waiting a few seconds for the powder to run, the drawer is pulled out and will be found to contain the correct amount of powder. This case can be placed in a dark cellar or vault and can be used to weigh without the use of a lamp or candle. The figures on the dial are raised, and by following them by the hand the proper amount of powder can be secured without the danger incurred in using a light. The case can be easily adjusted for weighing different grades of powder, or may be properly balanced in a few minutes. Full directions for operating the case are sent with each one sold or may be had by applying to the manufacturers.

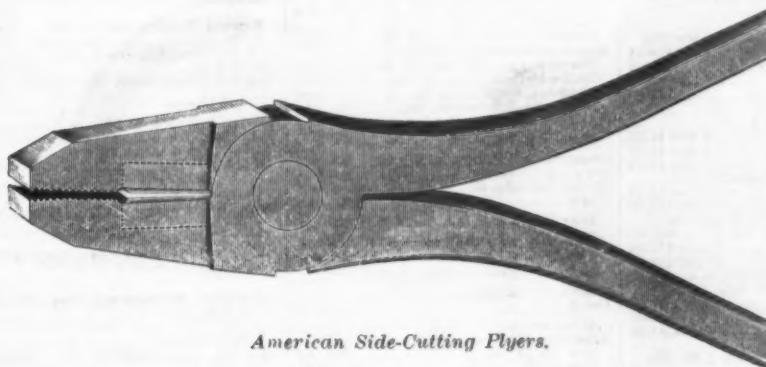
American Side-Cutting Pliers.

Wiebusch & Hilger, 84 and 86 Chambers street, New York, are introducing side-cutting pliers, as illustrated herewith. The pliers are solid steel, drop-forged from selected bar steel, the cutters and jaws being in one piece. The opening opposite the jaws is made extra large to admit large sized wire freely. The cutters being close to the joint gives a strong leverage and makes them powerful pliers. These pliers are especially adapted to

facture of the tubes and to the perfect graduation of the scale. They are finished with white enameled plate, black figures, mounted on cherry, black walnut, butternut, white wood and California redwood backs. All orders are filled with assorted woods.

Spur-Pointed Wood Screw.

American Screw Company, Providence, R. I., are putting upon the market and calling special attention to their spur-



American Side-Cutting Pliers.

electrical work, and the fact is emphasized that they are of American manufacture.

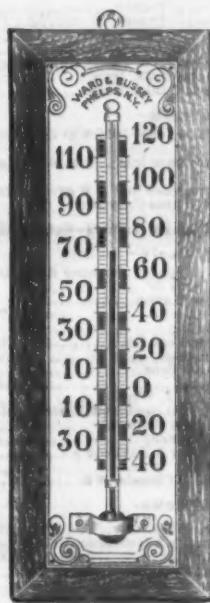
Ward's Distance Thermometer.

Ward & Bussey, Phelps, N. Y., are offering the trade distance thermometers, as illustrated herewith. The term, "distance thermometer" is applied for the reason that by using colored spirits, large distinct figures printed in black, silver or gold, and alternating them on either side of the scale, the temperature may be read at a glance at a distance of from 12 to 30 feet or more, according to the size of the instrument. Attention is called to their method of laying out the scale in black and white blocks alternating every ten degrees, which insures the correct reading of the instrument without approaching it closely. The manufacturers claim that their instruments invariably register alike when

pointed screw, as illustrated herewith. It will be observed that this screw has a double thread, which is deep on the point, while at the same time the fact that the thread is thin causes it to displace less wood and reduces friction, while increasing the holding power. They also emphasize the point that as a result of the process by which the screw is manufactured the entire surface is covered with a



Spur-Pointed Wood Screw.



Ward's Distance Thermometer.

placed side by side, under like circumstances, which applies to the cheaper grades as well as to the higher priced instruments. They state that the superiority of their instruments lies in the fact of the greatest care being exercised in the manu-

metallic skin. The following additional points are also made in regard to it: That it has a centralized point; that it is not liable to split the wood, and that only one bit is required. The trade will regard with special interest this new screw, which, we understand, is the result of extensive experiments and improvements made by the company.

Senator Stewart of Nevada complains that silver is spoken of as a "commodity," although his single endeavor is to give it an artificial value above that generally recognized among commercial nations. On this apparent inconsistency the New York *Press* pungently remarks: "It would seem that any man with more sense than a sucking baby ought to see that it is the difference between our ratio of gold to sil-

ver (1 to 16) and the ratio prevalent in Europe (1 to 15½) which gives those who 'loan and collect money on foreign account' and speculate in gold and silver, the chance to do the things that make silver a commodity and gold the standard money metal. It is this difference that keeps the price of silver so uncertain that Great Britain, by buying it as a bullion when it is cheap, and spending it in India at a legal tender value, can bring wheat and cotton to London and Liverpool to compete with the wheat and cotton of this country. It is this difference that places us at a disadvantage in the markets of Continental Europe, with Germany, France and Italy, which, whatever their differences about other things, practically agree on a common ratio of silver to gold."

A telegram from the Great Republic Iron Mine at Marquette, says that a fire that started in the shaft house communicated to the timbering of Nos. 5 and 6 shafts, and was extending underground.

CONTENTS.

PAGE.	
The Largest Ore Dock in the World. Illus..	129
Cailletet's Cryogene.....	129
The Abendroth & Root Boiler in Philadelphia.....	129
Chicago and South American Trade.....	132
A Fast Steam Launch.....	132
The Tailman Rod Reel and Conveyor. Illus.	133
Carrier Chain. Illustrated	134
Chicago Scheme for a Tower and Hotel Combined.....	134
Steel Pressure Blower with Combined Countershaft. Illustrated.....	134
Reports from the Wheat Fields.....	134
The Bochkoltz Cinder Car. Illustrated.....	135
Desulphurizing Basic Pig.....	136
San Francisco News.....	136
Duty on Patented Articles.....	136
The Luehrig Coal Washing Plant. Illus.	137
The Week.....	140
Editorials:	
American Postal Steamship Lines.....	141
The Basic Bessemer Process.....	141
Weekly Wages Payments in Illinois.....	141
The Lake Shipbuilders.....	142
Electric Heating and Forging.....	142
An Improvement in the West.....	142
In Transit Through Canada.....	142
Washington News.....	143
The Steelton Trouble	143
Personal.....	143
The Chicago Furniture Exhibition.....	144
Fire at Springfield Iron Works.....	144
Commerce of Venezuela.....	144
Manufacturing: Iron and Steel, Machinery, Hardware, Miscellaneous.....	144, 145
Trade Report: Chicago, Philadelphia, Cleveland, Cincinnati, Louisville, Detroit, St. Louis, New York, Financial, Coal Market, Metal Market, New York Metal Exchange, Imports, Pittsburgh, British Iron and Metal Markets.....	146-151
Hardware: Condition of Trade, Notes on Prices, Trade Items, Export Notes, The American Wringer Company, The Amenities of Business, Price-Lists, Circulars, &c., It Is Reported—, Exports, Paints and Colors.....	152-156
K. & J. No. 1 Wheel Scraper. Illustrated.....	157
Model 1891 Reloading Tool. Illustrated .. .	157
Standard Steel Charging Barrow. Illus..	157
Signal Oil Can. Illustrated	158
Power Hack Saw. Illustrated	158
The Cleveland Hose Handle. Illustrated ..	158
Kiel's Self-Weighing Powder Case. Illus ..	158
American Side-Cutting Pliers. Illustrated.	159
Ward's Distance Thermometer. Illustrated.	159
Spur-Pointed Wood Screw. Illustrated.....	159
Current Hardware Prices.....	160-165
Current Metal Prices.....	166

CURRENT HARDWARE PRICES.

JULY 22, 1891.

Note.—The quotations given below represent the Current Hardware Prices which prevail in the market at large. They are not given as manufacturers' prices, and manufacturers should not be held responsible for them. In cases where goods are quoted at lower figures than the manufacturers' name, it is not stated that the manufacturers are selling at the prices quoted, but simply that the goods are being sold, perhaps by the manufacturers, perhaps by the jobbers, at the figures named.

Clamps—

R. I. Tool Co.'s Wrought Iron.....	25¢
Adjustable, Cincinnati.....	16¢ to 20¢
Adjustable, Hammers.....	15¢
Adjustable, Stearn's.....	20¢ to 20¢ to 20¢
Stern's Adjustable Cabinet and Corner.....	30¢ to 10¢
Cabinet, Servant's.....	60¢ to 10¢
Carriage Makers' Sargents'.....	70¢ to 10¢
Carriage Makers', P. S. & W. Co.	40¢ to 10¢
Eberhard Mfg. Co.	40¢ to 40¢ to 10¢
Parallel, C. H. Besly & Co.	25¢
Warner's.	40¢ to 10¢ to 40¢ to 10¢
Saw Clamps, see Vises. Saw Fliers' Carpenter's, Cincinnati.....	25¢ to 10¢

Cleavers.

Butchers'.	
Bridley's.	25¢ to 30¢
L. & J. White.	20¢ to 5¢
Batty's.	40¢ to 40¢ to 5¢
New Haven Edge Tool Co.'s.	40¢
P. S. & W.	35¢ to 35¢ to 35¢ to 10¢
Foster Bros.	30¢
Schulte, Lohoff & Co.	40¢ to 40¢ to 5¢

Clips—

Norway, Axle, M & 5-16.....	55¢ to 55¢
2nd grade Norway Axle, M & 5-16.....	65¢ to 55¢
Superior Axle Clips.....	65¢ to 55¢ to 70¢
Norway Spring Bar Clips, 5-16.....	60¢ to 55¢
Wrought-Iron Felloc Clips.....	4¢ to 5¢
Steel Felloc Clips.....	4¢ to 5¢
Baker Axle Clips.	25¢

Cloth and Netting. Wire—See Wire, &c.**Cockeves.****Cocks, Brass.****Hardware list.****Coffee Mills—See Mills, Coffee.****Cellars, Dog, &c.**

Medford Fancy Goods Co.	40¢ to 10¢
Embossed, Gilt, Pope & Steven's list.	30¢ to 10¢
Leather, Pope & Steven's list.	40¢
Brass, Pope & Steven's list.	40¢
Chapman Mfg. Company.	50¢ to 10¢ to 60¢

Combs, Curly.

Fitch's.	50¢ to 10¢ to 50¢ to 10¢ to 10¢
Rubber, per doz \$10.00.	20¢
Perfect.	50¢
Kellogg's.	50¢ to 10¢
Sweet & Clark's.	50¢ to 10¢

Compasses, Dividers, &c.—

Compasses, Califors, Dividers.	70¢ to 10¢
Benni & Call Co.'s	
Dividers.	60¢ to 5¢
Compasses & Calipers.	50¢ to 5¢
Wing and Inside or Outside.	50¢ to 5¢
Double.	60¢
(Call's Pat. Inside).	30¢
Excisor.	50¢
J. Stevens & Co.'s.	25¢ to 10¢
Starrett's	
Spring Calipers and Dividers.	25¢ to 10¢
Lock Calipers and Dividers.	25¢
Combination Dividers.	25¢

Coopers' Tools—See Tools, Coopers'.**Cord—**

Sash.	
Common.	9 lb, 10¢ @ 11¢
Patent, good quality.	9 lb, 12¢ @ 12¢
White Cotton Braided, fair.	9 lb, 24¢ to 26¢
Common Russia Sash.	9 lb, 12¢ @ 13¢
Patent Russia Sash.	9 lb, 14¢
Cable Laid Italian Sash.	9 lb, 21¢ to 22¢
India Cable Laid Sash.	9 lb, 12¢
Silver Lake—	
A Quality, White, 50¢.	25¢
A Quality, Drab, 55¢.	25¢
B Quality, White, 30¢.	10¢
B Quality, Drab, 35¢.	10¢
Sylvan Spring Extra Braided White, 34¢.	
Sylvan Spring, Extra Braided, Drab, 36¢.	
Semper Idem Braided, White.	36¢
Egyptian, India Hemp, Braided.	26¢
Massachusetts, White.	26¢
Samson—	
Braided, White Cotton, 50¢.	30¢ to 30¢ to 5¢
Braided, Drab Cotton, 55¢.	30¢ to 30¢ to 5¢
Braided, Italian Hemp, 55¢.	30¢ to 30¢ to 5¢
Braided, Linen, 80¢.	30¢ to 30¢ to 5¢
Tate's Cotton Braided, White.	9 lb, 28¢
Wire Picture.	
Braided or Twisted.	75¢ to 10¢

Corkscrews—See Screws, Cork.**Corn Knives and Cutters—See Knives, Corn.****Crackers, Nut—**

Table (H. & B. Mfg. Co.)	40¢
Blake's Pattern.	\$2.00 to \$2.00, 10¢
Turner & Seymour Mfg. Co.	50¢

Cradles—

Grain.	50¢ to 50¢ to 50¢ to 10¢ to 3¢
Crayons.	

White Crayons, per gross.	10¢
D. M. Stewart Mfg. Co., Metal Workers, 9 gr.	25¢
D. M. Stewart Mfg. Co., Rolling Mill, 9 gr.	25¢
Woodruff's.	40¢ to 5¢
See also Chalk.	

Crow Bars—See Bars, Crow.**Curry Combs—See Combs, Curry.****Curtain Pine—See Pine Curtain****Cutters—****Meat.**

Dixon's.	40¢ to 5¢
Nos.	1 2 3 4
\$14.00	\$17.00 \$19.00 \$20.00
Woodruff's.	40¢ to 5¢
Nos.	100 150
	\$15.00 \$18.00
Hales Pattern.	\$27.00 \$35.00 \$45.00
Nos.	11 12 13
	\$70 to 75¢

Egg Beaters—See Beaters, Egg.**Egg Poachers—See Poachers, Egg.****Electric Bell Sets—See Bells, Electric.****Emery—**

Nos.	10 12 22 32 42
Each.	\$5 \$1.50 \$4 \$6 \$1.50
Great American Meat Cutter.	30¢
Nos.	112 116 118 120 122
Each.	\$3.00 \$2.75 \$2.50 \$2.50 \$4.00

Miles' Challenge.	45¢ to 5¢
Nos.	1 2 3
	\$23.00 \$29.00 \$40.00
Home No. 1.	\$26.00 \$36.00 \$56.00

Draw Cut, each:	
Nos. 5 2 6 8	
\$50 \$75 \$80 \$225	20¢ to 25¢
Great American.	30¢
Bee Shavers (Enterprise).	30¢ to 25¢
Little Giant.	50¢
Chadborn's Smoked Beef Cutter, per doz	36¢ to 10¢
Tobacco.	

Champion.	20¢ to 10¢ to 20¢
Wood Bottom.	25¢ to 25¢
All Iron.	25¢ to 25¢
Nashua Lock Co.'s.	\$18.00 50¢ to 55¢
Wilson's.	55¢
Sargent's.	25¢ to 25¢
Acme.	25¢ to 25¢
Washer.	

Smith's Pat.	20¢ to 10¢ to 10¢
Johnson's.	25¢ to 33¢
Penny's.	20¢ to 16¢
Appleton's.	20¢ to 16¢
Bonney's.	30¢ to 10¢
Cincinnati.	25¢ to 10¢

Damers, &c.—**Damper, Dampener Clips.****Crown Damper.****Excisor.****Diggers, Post Hole, &c.—****Damon Post Hole Digger.****Damon's Post Hole Digger.****Davis Post Hole Digger.****Davis' Post Hole Digger**

Hangers—

Barn Door, old patterns...
Barn Door, New England...
Samson Steel Anti-Friction...
Orleans Steel...
Hamilton Wrought Wood Track...
U. S. Wood Track...
Champion...
Rider and Wooster Medina Mfg. Co.'s
list...
Climax Anti-Friction...
Climax Anti-Friction for Wood Track...
Zenith for Wood Track...
Reed's Steel Arm...
Challenge, Barn Door...
Sterling...
Victor, No. 1, \$15.00; No. 2, \$16.50; No.
3, \$18.00...
Cheritree...
Kidder's...
The Boss...
Best Anti-Friction...
Duplex (Wood Track)...
Terry's Pat., \$ per doz pr. 4 in. \$10.00; 5 in.
\$12.00...
Terry's Steel Anti-Friction Leader...
Terry's Steel Anti-Friction Ideal...
Cronk's Patent, Steel Covered...
Wood Track Iron Clad, F. & T. 10¢...
Carrier Steel Anti-Friction...
Architect, F set \$6.00...
Helpac...
Felix, F set \$4.50...
Richards...
Lane's Standard...
Lane's New Standard...
Ball Bearing Door Hanger, 20¢ to 25¢ to 30¢
Warner's Pat., 20¢ to 25¢ to 30¢ to 35¢
Stearns' Anti-Friction, 20¢ to 25¢ to 30¢ to 35¢
Stearns' Challenge, 25¢ to 30¢ to 35¢ to 40¢
Faultless...
American, F set \$6.00...
Rider & Wooster, No. 1, 65¢; No. 2,
75¢...
Paragon, Nos. 1, 2 and 3...
Cincinnati...
Paragon, Nos. 5, 6, 7 and 8...
Crescent...
Nickel Cast Iron...
Nickel, Malleable Iron and Steel...
Scranton Anti-Friction Single Straps...
Wild West, 4 in. Wheel, \$15.00; 5 in.
Wheel, \$21.00...
Star...
May...
Barry, \$6.00...
Interstate...
Magic.

Harness Snaps—See Snaps.**Hatchets—**

American Axe and Tool Co.
Blood's...
Hunt's...
Hurd's...
Mason's...
Peek's...
Underhill's...
Buffalo Hammer Co...
Fayette R. Plumb...
C. Hammond & Son...
Kelly's...
Sargent & Co...
P. & W. Co...
Ten Eyes Edge Tool Co...
Collins...
Schultz, Lohoff & Co...
10¢
50¢ to 50¢ to 50¢

Hay and Straw Knives—See Knives.

Hinges—**Blind Hinges—**

Parker...
Palmer...
Seymour...
Huber...
Clark's, Nos. 1, 3, 5, 40 and 60...
Clark's Mortise Gravity...
Sargent's Nos. 1, 3, 5, 11, 13...
Sargent's, No. 12...
Reading's Gravity...
Shepard's Noiseless...
Niagara...
Buffalo...
Clark's Genuine Pattern...
O. S., Lull & Porter...
Acme, Lull & Porter...
Queen City Reversible...
Clark's Lull & Porter, Nos. 0, 1, 16,
2, 26, 3...
North's Automatic Blind Fixtures, No.
2, for Wood, \$9.00; No. 2, for Brick,
\$11.50...
Gate Hinges—
Western...
E. E. Reversible...
Clark's, Nos. 1, 2, 5...
V. Y. State...
Automatic...
Common Sense...
Seymour's...
Shepard's...
Head's Latch and Hinges, \$ per doz...
Spring Hinges—
Geo's Spring and Blank Butts...
Union Spring Hinge Co.'s list, March
Acme...
J. S...
Empire and Crown...
Hero and Monarch...
American, Gem, and Star...
Oxford...
Barker's Double Acting...
Union Mfg. Co...
Bommer's...
Buckman's...
Chicago...
Wiles'...
Devore's...
Rex...
Royal...
Reliable...
Champion...
Bardsley's Patent...
Stearns'...
Niagara, Holdback pattern, per
gross, \$14.00...
Wrought Iron Hinges
List February 14, 1891.

Strap and T...
50¢ to 10¢

Corrugated Strap and T...
Screw Hook and Strap...
Screw Hook and Eye...
Rolled Blind Hinges, Nos. 32 and 34...
Rolled Blind Hinges, Nos. 232 and 234...
Rolled Plate...
Rolled Raised...
Plate Hinges, 8, 10 & 12 in., \$ per doz...
"Providence" over 12 in., \$ per doz...
Hoosier—
Eye—
D. & H. Scovil...
Lanc's Crescent Planters Pattern...
Lanc's Razor Blade, Scovil Pattern...
Maynard, S. & O. Pat...
Sandusky Tool Co., S. & O. Pat...
Am. Axe and Tool Co., S. & O. Pat...
Chatanooga Tool Co., S. & O. Pat...
Grub...
Handled—
Garden, Mortar, &c...
Planter, Cotton, &c...
Warren Hoe...
Magic...
Hog Rings and Ringers—See
Rings and Ringers.

Hoisting Apparatus—See Machines, Hoisting.

Hollow-Ware—See Ware, Hollow.

Holders—

Bag—
Sprengle's Pat...
Bit—
Extension, Barber's, \$ per doz \$15.00...
Ives, \$ per doz \$30.00...
Diamond...
Angular...
File and Tool—
Balk Pat...
Nicholson File Holders...
Dick's Tool Holder...
Heels—

Cast Iron—
Bird Cage, Sargent's list...
Bird Cage, Reading...
Clothes Line, Sargent's list...
Clothes Line, Reading list...
Ceiling Sargent's list...
Harness, Reading list...
Coat and Hat, Sargent's list...
Coat and Hat, Reading list...
Wrought Iron—
Cotton...
Cotton Pat. (N.Y. Mallet & Handle Works)...
Tassel and Picture (T. & S. Mfg. Co.)...
Wrought Staples, Hooks, &c...
See Wrought Goods.

Wire—
Wire Coat and Hat, Gem, list April, 1886...
Wire Coat and Hat, Miles', list April, 1886...
Indestructible Coat and Hat...
Wire Coat and Hat, Standard...
Handy Hat and Coat...
Steady Ceiling Hooks...
Belt...
Atlas, Coat and Hat...
Bright Wire Goods, see W. R.

Miscellaneous—
Grass, No. 2, \$2.00; No. 3, \$2.25; No. 4, \$2.50
Nolin's Grass...
Bush...
Whiffletree—Patent...
Hooks and Eyes—Malleable Iron...
Hooks and Eyes—Brass...
Fish Hooks, American...
Bench Hooks...
See Bench Stoops.

Horse Nails—See Nails, Horse.

Hose, Rubber—

Competition...
Standard...
N. Y. B. & F. Co., Para...
N. Y. B. & F. Co., Extra...
N. Y. B. & F. Co., Dundee...
Huskers—

Blair's Adjustable...
Blair's Adjustable Clipper...
Hubbard's Solid Steel...
Indurated Fiber—Ware—See
Ware, Indurated Fiber.—

Irons.

Sad—
From 4 to 10, at factory...
Self-Heating...
Self-Heating, Tailors'...
Mrs. Pott's Irons...
XX Cold Handle Sad Iron...
Ideal Irons new list 50¢ to 10¢ to 10¢
N. Y. B. & F. Co., Para...
N. Y. B. & F. Co., Extra...
N. Y. B. & F. Co., Dundee...
Sensible, list Jan. 91...
Mahony's Troy Pol. Irons...
Sensible Tailor's Irons...
National Self-Heating...
Soldering—

Soldering Copper...
Cover's Adjustable, list Jan. 1, 1886...
Irons, Pinking, per doz., 65¢.

Jack Screws—See Screws.

Jacks, Wagon.

Daisy...
Victor...

Kettles—

Brass, Spun, Plain, list Jan. 1, '91, 25¢ to 50¢
Brass, Spun, Pla. W.M. list Jan. 1, '91, 20¢
Enamelled and Tea—See Hollow Ware.

Keys—

Lock Asso'n list Dec. 30, 1886...
50¢ to 10¢
Eagle, Cabinet, &c...
Hotchkiss' Brass Blanks...
Hotchkiss, Copper and Tinned...
Hotchkiss' Pad, and Cab...
Ratchet Bed Keys...
Wolensack Tinned...
50¢ to 10¢

Knife Sharpeners—See Sharpeners, Knife.

Knives.

Butcher, Shoe, &c...
Wilson's Butcher Knives, List Dec. 8, 1890...
Ames' Butcher Knives...
Foster Bros.' Butcher, &c...
Jordan's AAA, Brothers', list...
Nichols' Butcher Knives...
W. W. Wilson, Butcher, 6 in., \$2.00; 7 in., \$2.70; 8 in., \$3.50, &c.

Ames' Shoe Knives, \$ per doz \$1.50, 15¢ to 20¢

Moran's Shoe and Bread...
Hat and Straw...
See Hat Knives.

Knife and Pocket...
See Cutlery.

Corn Auburn Mfg. Co. Western Pat...
42.00

Corn Auburn Mfg. Co. Crescent...
43.50

Wadsworth's...
Drawing—

Witherby...
P. S. & W...
Mix...
New Haven...
Merrill...
Donguis...
Watrous...
L. & J. White...
Bradley's...
Adjustable Handle...
Wilkinson's Folding...
Hay and Straw—

Lightning, Mfrs', price \$ per doz \$18.00, 25¢

But Jobbers cut this price freely,
often selling at \$8 @ \$8.50.

Wadsworth's...
40¢ to 75¢ to 40¢ to 10¢

Carter's Needle...
\$ per doz \$11.00 @ \$11.50

Heath's...
\$ per doz \$13.00 @ \$13.50

Auburn Hay, Com. and Spear Point...
40¢

Nolin's Hay...
\$ per doz \$7.00 @ \$8.00

Mincing...

Am. (2d Quality), \$ gr., 1 blade, 27¢;
2 blades, \$12; 3 blades, \$18...
Lothrop's...
Smith's, \$ per doz, Single, \$2.00; Double, \$3.00; \$4.50

Knapp & Cowles...
50¢ to 10¢ to 20¢

Buffalo Adjustable...
\$ per doz \$8.00, 25¢

Buffalo Double Adj'table, \$ per doz \$8.00, 25¢

Kneads, &c.

Clark's, No. 1, \$10; No. 2, \$8 \$ gr., \$2.50

Ferguson's...
Morris and Triumph, list Aug. 16, 1890...

Victor...
Walker's...
Attwell Mfg. Co...
Reading...
Hammond's Window Springs...
Common Sense, Jap'd, Cop'd, and
Br'd...
Common Sense, Nickel Plated

\$ gr \$10.00

Universal...
Kempfau's Gravity...
Kempfau's Model...
Corbin's Daisy, list Feb. 15, 1890...
Payson's Perfect...
Hugunin's Sash Balances...
Hugunin's New Sash Locks...
Stodard's "Practical"...
Ives' Patent...
Lieche's, No. 100, \$ gr \$8; \$10, \$10.50
Davis, Bronze, Barnes Mfg. Co...
Champion Safety, list March 1, 1889...
Security...
Buckeye...
Lumber Tools—See Tools, Lumber

Lusters—

Four-ounce Bottles...
\$ per doz, \$1.75; \$ per gross, \$17.00

Machines.

Boring—Without Augers, Upright, Angular.

Douglas...
Snell's, Lee's Pat...
Jennings...
Other Machines...
Phillips' Patent with Augers...
Miller's Falls...
Shifting—

Knox, 4½-inch Bolts...
Knox, 6-inch Bolts...
Eagle, 5½-inch Bolts...
Eagle, 5½-inch Roll...
Crown, 4½ in., \$2.50; 6 in., \$4.00; 8 in., \$6.50

Crown Jewel, 6 in., \$8.50 each, \$85

American 5 in., \$3.00; 6 in., \$3.40; 7 in., \$4.50 each

Domestic Fluter, White Metal

Geneva Hand Fluter, No. 1, \$15.00;

\$12.50; 2, \$10.00

Shepard Hand Fluter, No. 10, \$ per doz

16 to 20

\$11.00

Shepard Hand Fluter, No. 95 \$ per doz

\$18.00

Clark's Hand Fluter, \$ per doz \$15.00

Combined Fluter and Sad Iron,

\$ per doz \$15.00...
Buffalo

Hoisting—Moore's Hand Hoist, with Lock

Brake...

Moore's Differential Pulley Block...

Energy Mfg. Co.'s

Sure Grip Steel Tackle Blocks...

Washing—Anthony Wayne, \$ per doz No. 1, \$51; No. 2, \$45; No. 3, \$42

Western Star, \$ per doz No. 2, \$45; No. 3, \$42

Mallets.		
Hickory.....	20 ⁴ &10 ⁶ /20 ⁴ &10 ⁶	
Lignumvite.....	20 ⁴ &10 ⁶ /20 ⁴ &10 ⁶	
R. & L. Block Co., Hickory & L. V.	30 ⁴ &10 ⁶	
Mattocks. Regular list.	60 ⁴ &10 ⁶ /60 ⁴ &10 ⁶	
Measures—		
Standard Fibreware, No. 1, peck, ♀ dozen, \$4; ♀-peck, \$3.50.		
Meat Cutters—See Cutters, Meat.		
Menders, Harness—	\$2.00	
Mills.		
Coffee—		
Box and Side, List Jan. 1, 1888....	60 ⁴ &10 ⁶	
American, Enterprise Mfg Co. 20 ⁴ &10 ⁶ /30 ⁴		
The Swift, Lane Bros.....	20 ⁴ &10 ⁶	
Mincing Knives — See Knives, Mincing.		
Molasses Gates—See Gates, Molasses.		
Money Drawers — See Drawers, Money.		
Mowers, Lawn.		
Pennsylvania, New Model, Excelsior, (continental, &c.).....	60 ⁴ &60 ⁶	
Philadelphia.....	60 ⁴ &10 ⁶	
Perfection.....	60 ⁴ &10 ⁶	
Easy.....	60 ⁴ &10 ⁶ /60 ⁴ &10 ⁶	
Other Machines.....	60 ⁴ &10 ⁶ /70 ⁴	
Muzzles—		
Safety.....	♀ dos, \$3.00, 25 ⁴	
Nails.		
Cut and Wire. See Trade Report.		
Wire Nails, Papered.		
Association list, July 15, '89....	75 ⁴ &10 ⁶	
Tack Mfr.'s list.....	70 ⁴	
Wire Nails, Standard Penny.		
Card June 1, '89, base.....	\$2.30 @ 2.35	
Horse—		
Nos. 6 7 8 9 10		
Available....	23 ⁴ 24 ⁴ 25 ⁴ 26 ⁴ 23 ⁴	
	40 ⁴ &5 ⁶ /52 ⁴	
Clinton, Fin. 14 ⁴ 17 ⁴ 16 ⁴ 15 ⁴ 14 ⁴	30 ⁴	
Essex.....	28 ⁴ 20 ⁴ 25 ⁴ 24 ⁴ 23 ⁴	
	40 ⁴ &5 ⁶ /52 ⁴	
Lyra.....	14 ⁴ 17 ⁴ 16 ⁴ 15 ⁴ 14 ⁴	30 ⁴
Snowden.....	14 ⁴ 17 ⁴ 16 ⁴ 15 ⁴ 14 ⁴	30 ⁴
Putnam.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
	1000 in year 15 ⁴	
Vulcan.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
Northwest'n. 25 ⁴ 23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴		
	25 ⁴ &25 ⁶	
Globe.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
Boston.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
	20 ⁴ &5 ⁶	
A. C.....	25 ⁴ 23 ⁴ 23 ⁴ 21 ⁴ 21 ⁴	
	25 ⁴ &10 ⁶ /33 ⁴ &5 ⁶	
C. B.-K.....	25 ⁴ 23 ⁴ 22 ⁴ 21 ⁴ 21 ⁴	
	25 ⁴ &10 ⁶ /33 ⁴ &5 ⁶	
Maud S.....	25 ⁴ 23 ⁴ 22 ⁴ 21 ⁴ 21 ⁴	
	40 ⁴ &5 ⁶	
Champlain.....	23 ⁴ 20 ⁴ 25 ⁴ 24 ⁴ 23 ⁴	
	40 ⁴ &10 ⁶	
Saranac.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
Champion.....	25 ⁴ 23 ⁴ 22 ⁴ 21 ⁴ 20 ⁴	
	10 ⁴ &10 ⁶	
Capewell.....	23 ⁴ 20 ⁴ 5 ⁴ 24 ⁴ 23 ⁴	
	35 ⁴ &10 ⁶ /35 ⁴ &10 ⁶	
Star.....	23 ⁴ 21 ⁴ 19 ⁴ 18 ⁴ 17 ⁴	
	10 ⁴ &10 ⁶ /10 ⁴ &12 ⁴	
Anchor.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
Western.....	23 ⁴ 21 ⁴ 20 ⁴ 19 ⁴ 18 ⁴	
Empire Bronzed.....	14 ♀	
Picture—		
Brass Head, Sargent's list.....	50 ⁴ &10 ⁶	
Brass Head, Combination list.....	50 ⁴ &10 ⁶	
Porcelain Head, Sargent's list.....	50 ⁴ &10 ⁶	
Porcelain Head, Combination list.....	40 ⁴ &10 ⁶	
Niles' Patent.....	40 ⁴	
Picture—		
Brass Head, Sargent's list.....	50 ⁴ &10 ⁶	
Brass Head, Combination list.....	50 ⁴ &10 ⁶	
Porcelain Head, Sargent's list.....	50 ⁴ &10 ⁶	
Porcelain Head, Combination list.....	40 ⁴ &10 ⁶	
Niles' Patent.....	40 ⁴	
Nail Pullers.—See Pullers, Nail.		
Nail Sets.—See Sets, Nail.		
Nut Crackers.—See Crackers, Nut.		
Nuts—List Dec. 18, 1889.		
Square. Hex.		
Hot Pressed.....	5.40 ⁴	
	6.00 ⁴ off list.	
Cold Pressed.....	5.00 ⁴	
	5.10 ⁴ off list.	
in packages of 100 lb. add 1-10 ⁴ ♀.		
net; in packages less than 100 lb. add 3 ⁴ ♀. net.		
Oakum—		
Best or Government....	♀ d 70 ⁴ /74 ⁴	
U. S. Navy.....	♀ d 64 ⁴ /64 ⁴	
Kavy.....	♀ d 55 ⁴ /60 ⁴	
Oilers—		
Zinc and Tin.....	65 ⁴ &10 ⁶ /70 ⁴	
Brass and Copper.....	50 ⁴ &10 ⁶ /50 ⁴ &10 ⁶	
Malleable Hammers Improved, No. 1, \$3.60; No. 2, \$4.00; No. 3, \$4.40 ♀ dos.	10 ⁴ &10 ⁶	
Malleable Hammers, Old Pattern, same list.....	40 ⁴	
Prior's Pat. or "Paragon" Zinc.....	60 ⁴ &10 ⁶	
Prior's Pat. or "Paragon" Brass.....	50 ⁴	
Olmstead's Tin and Zinc.....	50 ⁴	
Olmstead's Brass and Copper.....	50 ⁴	
Broughton's Zinc.....	50 ⁴	
Broughton's Brass.....	50 ⁴	
Gem, F. D. & Co.	♀ gro. 50 ⁴	
Steel, Draper and Williams.....	50 ⁴	
Openers, Can.		
Messenger's Comet.....	♀ dos, \$3.00, 25 ⁴	
American.....	♀ gro. \$3.00	
Duplex.....	dos, 20 ⁴ , 21 ⁴ , 20 ⁴	
Lyman's.....	♀ dos, \$3.75, 20 ⁴	
No. 4 French.....	♀ dos, \$2.25, 56 ⁴ /60 ⁴	
No. 5, Iron Handle.....	♀ gro. 40 ⁴ , 45 ⁴	
Eureka.....	♀ dos, 20 ⁴ , 20 ⁶ , 10 ⁴	
Sardine Scissors.....	♀ dos, 20 ⁴ , 25 ⁴	
Star.....	♀ dos, 20 ⁴ , 22.75 ⁴	
Sprague No. 1, \$2.00, 2 ⁴ , 23 ⁴ , 28.50 ⁴	20 ⁴ &10 ⁶	
Exciator No. 1, \$2.50; No. 2, \$1.50....	40 ⁴	
World's Best ♀ gross, No. 1, \$12.00....	40 ⁴	
No. 3, \$34.00; No. 2, \$36.00....	50 ⁴ &21 ⁴	
Universal, ♀ dos \$2.00....	45 ⁴	
Domestic, ♀ dos \$2.50....	45 ⁴	
Champion ♀ dos \$2.00....	45 ⁴	
Packing, Steam—		
Standard.....	60 ⁴ &60 ⁶	
Extra.....	50 ⁴ &60 ⁶	
N. Y. B. & P. Co., Standard.....	50 ⁴	
N. Y. B. & P. Co., Empire.....	60 ⁴	
N. Y. B. & P. Co., Salamanca.....	25 ⁴	
Jenkins' Standard, ♀ \$0.60....	25 ⁴ &25 ⁶	
Nicelass—		
American Packing.....	10 ⁴ &11 ⁴ ♀	
Russia Packing.....	14 ⁴ ♀	
Italian Packing.....	15 ⁴ &14 ⁴ ♀	
Cotton Packing.....	15 ⁴ &17 ⁴ ♀	
Jute.....	70 ⁴ &84 ⁴	
Padlocks—See Locks.		
Pails.		
Galvanized Iron—		
Quarts.....	10 12 14	
Hill's Light Weight, ♀ dos, \$2.75 3.00 3.25 ⁴		
Hill's Heavy Weight, ♀ dos, \$2.00 2.35 2.75 ⁴		
Hilwig's.....	2.50 2.75 3.00	
Sidney Shepard & Co.....	2.25 2.55 3.05	
Iron Clad.....	2.50 2.75 3.00	
Fire Buckets.....	2.75 3.25 3.50	
Buckets, see Well Buckets.		
Indurated Fibre Ware—	25 ⁴	
Star Pails, 12 qt.....	♀ dos \$5.40	
Fire, Stable and Milk, 14 qt.....	♀ dos \$7.30	
Standard Fibre Ware—	Plain. Dec'd	
Water Pails, 12 qt, per dos, \$4.00	\$4.50	
Dairy Pails, 14 qt, per dos, 4.50	5.00	
Fire Pails, No. 1, 12 qt, per dos 4.50		
Fire Pails, No. 2, 14 qt, per dos 5.00		
Sugar Pails.....	5.00	
Horse Pails.....	5.00	
Buggy Pails.....	4.00	
Slop Jars (bal. trap).....	8.00	
Chamber Pails, 14 qt.....	6.50	
Pans.		
Dripping.		
Small sizes.....	♀ d 6 ⁴	
Large sizes.....	♀ d 5 ⁴	
Silver & Co. (Covered).....	40 ⁴	
Par-		
Standard List:		
No. 0 1 2 3 4		
♀ dos, \$3.00 \$3.75 \$4.25 \$4.75 \$5.25		
No. 5 6 7 8		
♀ dos, \$6.00 \$7.00 \$8.00 \$9.00		
Poished, regular goods....	75 ⁴ &10 ⁶	
Acme Frv Pans.....	60 ⁴ &10 ⁶	
Dust—		
Steel Edge, No. 1.....	♀ dos \$1.75	
Paper and Cloth—		
Sand and Emery—		
List April 10, 1886.....	50 ⁴ &60 ⁶	
Sibley's Emery and Crocus Cloth.....	30 ⁴	
Parers.		
Apple.		
Advance.....	♀ dos \$4.75	
Baldwin.....	♀ dos 5.25	
Bonanza.....	each 5.00	
Daisy.....	each 4.00	
Elliott.....	♀ dos 4.25	
Eureka, 1888.....	each 16.00	
Family Bay State.....	♀ dos 12.00	
Favorite.....	♀ dos 5.00	
Gold Medal.....	♀ dos 4.00	
Improved Bay State, ♀ dos 27.00 @ 30.00		
Little Star.....	♀ dos 4.50	
Monarch.....	♀ dos 13.50	
New Lightning.....	♀ dos 5.50	
Oriole.....	♀ dos 4.00	
Penn.....	♀ dos 4.00	
Perfection.....	♀ dos 4.00	
Pomona.....	♀ dos 4.00	
Rocking Table.....	♀ dos 6.00	
Turn Table.....	♀ dos 4.50	
Victor.....	♀ dos 12.50	
Waverly.....	♀ dos 4.00	
White Mountain.....	♀ dos 4.00	
72.....	♀ dos 4.25	
78.....	♀ dos 7.00	
Potato—		
White Mountain.....	♀ dos \$4.50	
Antrim Combination.....	♀ dos \$5.50	
Hoosier.....	♀ dos \$12.50	
Saratoga.....	♀ dos \$20.50	
Pencils—		
Faber's Carpenters'.....	high list 50 ⁴	
Faber's Round Gilt.....	♀ gro. \$5.25	
Dixon's Lead.....	♀ gro. \$4.50	
Dixon's Lumber.....	♀ gro. \$4.75	
Dixon's Carpenters'.....	10 ⁴	
Picks—		
Railroad or Adze Eye, 5 to 6, \$12.00;		
to 7, \$13.00.....	60 ⁴ &10 ⁶ /60 ⁴ &10 ⁶	
Picture Nails.—See Nails, Picture.		
Pinking Irons.—See Irons, Pinking, Pine.		
Bow—		
Humason, Beckley & Co.'s.....	60 ⁴ &10 ⁶	
Sargent & Co.'s, \$17 and \$18.....	60 ⁴ &10 ⁶	
Peck, Stow & W. Co.	50 ⁴ &10 ⁶ /50 ⁴ &10 ⁶	
Curtain—		
Silvered Glass.....	net	
White Enamel.....	net	
Escutcheon,		
Iron, list Nov. 11, 1886....	50 ⁴ &10 ⁶ /50 ⁴ &10 ⁶	
Brass.....	60 ⁴ &10 ⁶	
Pipe, Wrought Iron—		
List September 18, 1889.		
1/4 and under, Plain.....	50 ⁴	
1/4 and under, Galvanized.....	45 ⁴	
1/4 and over, Plain.....	65 ⁴	
1/4 and over, Galvanized.....	55 ⁴	
Boiler Tubes.		
Sizes up to 2 1/4 in. inclusive.....	55 ⁴	
Sizes 3 to 6 in. inclusive.....	65 ⁴	
Sizes 7 1/4 in. and up.....	55 ⁴	
Casing.....	55 ⁴	
Planes and Plane Irons—		
Wood Planes—		
Molding.....	35 ⁴ /35 ⁴	
Bench, First Quality.....	50 ⁴	
Bench, Second Quality.....	55 ⁴	
No. 5, Iron Handle.....	50 ⁴ &10 ⁶	
Eureka.....	50 ⁴ &10 ⁶	
Bailey's (Stanley R. & L. Co.).....	40 ⁴ &10 ⁶	
Iron Planes—		
20 ⁴ &10 ⁶ /20 ⁴ &10 ⁶		
Meriden Mallorn Co.'s.....	40 ⁴ &10 ⁶	
Davis' Iron Planes.....	40 ⁴ &10 ⁶	
Birmingham Plane Co.....	50 ⁴ &50 ⁶ /10 ⁶	
Gage Tool Co.'s Self-Setting.....	20 ⁴ &10 ⁶ /10 ⁶	
Chaplin's Iron Planes.....	40 ⁴ &10 ⁶	
Sargent's.....	30 ⁴ &10 ⁶ /30 ⁴ &10 ⁶	
Standard Tool Co.....	50 ⁴ &25 ⁴	
Plane Irons—		
Butcher's.....	35.00@35.35 to 2 ⁴	
Bros.....	30 ⁴	
Auburn "Thistle".....	35 ⁴ /23 ⁴	
Ohio.....	35 ⁴ /23 ⁴	
Sandusky.....	35 ⁴ /23 ⁴	
S. & J. J. White.....	25 ⁴	
Plates.		
Fellow.....	♀ d 60 ⁴ /64 ⁴	
Rall—		
Sliding Door, Wr't Brass, ♀ d 25 ⁴	15 ⁴	
Sliding Door, Bronzed Wr't Iron, ♀ ft. 7 ⁴	15 ⁴	
Sliding Door, Iron, Fainted, ♀ ft. 4, 40 ⁴	15 ⁴	
Barn Door, Light In.....	15 ⁴ 16 ⁴ 17 ⁴ 18 ⁴	
Per 100 feet.....	15.00 16.00 17.00 18.00	
Pliers and Nippers—		
Button's Patent.....	50 ⁴ &50 ⁶ /10 ⁴	
Hall's No. 2, 5 in., \$18.50; No. 4, 7 in.....	15 ⁴	
Munson & Beckley Mfg Co.	50 ⁴ &50 ⁶ /10 ⁴	
Lindsay's Giant.....	40 ⁴	
Gas Pliers.....	60 ⁴	
Gas Pliers, Custar's Nickel Plated.....	60 ⁴ /55 ⁴	
Russell's Parallel.....	25 ⁴	
P. S. & W. Cast Steel.....	50 ⁴	
P. S. & W. Timers' Cutting Nippers, add 6 ⁴ dos 10 ⁶		
Carew's Pat. Wire Cutters.....	add 6 ⁴ dos 10 ⁶	
Morrill's Parallel, ♀ dos \$12.00.....	30 ⁴ /55 ⁴	
Cronk's 8 in., \$15.00; 10 in., \$21.00.....	30 ⁴ /40 ⁴ /45 ⁴	
Plumbs and Levels—		
Regular List.....	70 ⁴ &10 ⁶ /70 ⁴ &10 ⁶	
Diaslon's.....	50 ⁴	
Pocket Levels.....	70 ⁴ &10 ⁶ /70 ⁴ &10 ⁶	
Davis Iron Levels.....	30 ⁴	
Davis' Inclinometers.....	10 ⁴ /10 ⁶	
Pouchers.		
Egg.		
Buffalo Steam Egg Poachers, ♀ dos, No. 1, \$1.00; No. 2, \$2.00.....	25 ⁴	
Silver & Co., 6-Ring, ♀ dos \$4; 3-Ring \$2		
Pokos, Animal—		
Bishop's I. X. L.....	♀ dos \$6.00	
Bishop's O. K.....	♀ dos \$5.25	
Bishop's Pioneer.....	♀ dos \$3.75	
Bishop's American.....	♀ dos \$2.75	
Eagle, Double Stake.....	♀ dos \$5.75	
Eagle, Single Stake.....	♀ dos \$3.75	
Buckeye, Single Stake.....	♀ dos \$2.75	
Police Goods.		
R. I. Tool Co., Handcuffs, \$15.00@ dos 10 ⁶		
R. I. Tool Co., Leg Irons, \$25.00@ dos 10 ⁶		
Tower's.....	25 ⁴	
Daley's Improved Handcuffs: 2 Hands, ♀ dos \$48.00; Nickled, \$57.00; 3 Hands, Polished, ♀ dos \$72.00; Nickled, \$84.00.....	25 ⁴	
Dale's Police Goods.....	25 ⁴	
Polish, Metal.		
Prestoline.....	30 ⁴	
Prestoline Paste.....	35 ⁴ /45	
Gaston's Silver Compound.....	35 ⁴ /45	
Polish, Stove.		
Joseph Dixon's.....	♀ gro. \$6.00, 10 ⁴	
Gem.....	♀ gro. \$4.50, 10 ⁴	
Gold Medal.....	♀ gro. \$4.00, 10 ⁴	
Miro.....	♀ gro. \$3.00, 10 ⁴	
Lustro.....	♀ gro. \$4.75	
Ruby.....	♀ gro. \$3.75	
Rising Sun, 5 gro. lots.....	♀ gro. \$3.75	
Rixon's Plumback.....	♀ gro. \$3.75	
Boynton's Noon Day, ♀ gro. 13.00.....	13.00	
Parlor Pride Stove Enamel, ♀ gro. 13.00.....	13.00	
Yates' Liquid, 2 3 5 10 gal....	♀ gro. 10.00	
Yates' Liquid, 10 gal....	♀ gro. 10.00	
Yates' Liquid, 1 gal....	♀ gro. 1.00	
Yates' Liquid, 1/2 gal....	♀ gro. 0.50	
Yates' Liquid, 1/4 gal....	♀ gro. 0.25	
Yates' Liquid, 1/8 gal....	♀ gro. 0.125	
Yates' Liquid, 1/16 gal....	♀ gro. 0.0625	
Yates' Liquid, 1/32 gal....	♀ gro. 0.03125	
Yates' Liquid, 1/64 gal....	♀ gro. 0.015625	
Yates' Liquid, 1/128 gal....	♀ gro. 0.0078125	
Yates' Liquid, 1/256 gal....	♀ gro. 0.00390625	
Yates' Liquid, 1/512 gal....	♀ gro. 0.001953125	
Yates' Liquid, 1/1024 gal....	♀ gro. 0.0009765625	
Yates' Liquid, 1/2048 gal....	♀ gro. 0.00048828125	
Yates' Liquid, 1/4096 gal....	♀ gro. 0.000244140625	
Yates' Liquid, 1/		

<i>Hack Saws—</i>	
Griffin's, complete.	.40&10@.50 ⁵
Griffin's Hack Saw, Blades.	.40&10@.50 ⁵
Star Hack Saws and Blades.	.25 ⁵
Eureka and Crescent.	.25 ⁵
<i>Scroll—</i>	
Lester, complete, \$10.00.	.25 ⁵
Rogers, complete, \$4.00.	.25 ⁵
Barnes' Builders' and Cabinet Makers'.	.25 ⁵
\$15.	.25 ⁵
Barnes' Scroll Saw Blades.	.35 ⁵
<i>Saw Frames—See Frames, Saw.</i>	
<i>Saw Sets—See Sets, Saw.</i>	
<i>Saw Tools—See Tools, Saw.</i>	
<i>Scenes—</i>	
Hatch, Counter, No. 171, good quality.	
	\$ dos \$21.00
Hatch, Tea, No. 161.	\$ dos \$4.75@\$7.00
Union Platform, Plain.	.12.10@.20
Union Platform, Striped.	.12.40@.25
Chatillon's Grocers' Trip Scales.	.50 ⁵
Chatillon's Eureka.	.25 ⁵
Chatillon's Favorite.	.40 ⁵
Family, Turnbuckles.	.30@.50@10 ⁵
Riehle Bros.' Platform.	.40 ⁵
<i>Scale Beams—See Beams, Scale.</i>	
<i>Scissors, Fluting.....</i>	
<i>Scrapers—</i>	
Adjustable Box Scraper (S. R. & L. Co.)	.40 ⁵
Box, 1 Handle.	\$ dos \$4.20@10 ⁵
Box, 3 Handle.	\$ dos \$6.00, 10 ⁵
Defiance Box and Ship.	.30@10 ⁵
Foot. . . . .	.50@10@60 ⁵
Ship, Common.	\$ dos \$3.50 net
Ship, R. I. Tool Co.	.10 ⁵
<i>Screen Window and Door</i>	
<i>Frames—See Frames.</i>	
<i>Screw Drivers—See Drivers, Screw.</i>	
<i>Screws.</i>	
<i>Bench and Hand—</i>	
Bench, Iron. . . . .	.55&10@.55@10@10 ⁵
Bench, Wood, Beech.	\$ dos 22.25
Bench, Wood, Hickory. . . . .	.20@10 ⁵
Hand, Wood. . . . .	.25@10@25@10@5 ⁵
Lag, Blunt Point, list Jan. 1, 1890. . . . .	.75@10@10 ⁵
Coach and Lag, Gimlet Point, list Jan. 1, 1890. . . . .	.75@10@10 ⁵
Box. . . . .	.25@10 ⁵
Hand Rail, H. & T. Mfg. Co. . . . .	.70@10@.75 ⁵
Hand Rail, Am. Screw Co. . . . .	.75 ⁵
Jack Screws, Millers Falls list. . . . .	.50@.50@.55 ⁵
Jack Screws, P. S. & W. . . . .	.35 ⁵
Jack Screws, Sargent. . . . .	.60@10@.60@10@5 ⁵
Jack Screws, Stearns'. . . . .	.40@.40@10 ⁵
<i>Cork—</i>	
Humason & Beckley Mfg. Co. . . . .	.40@10@.50 ⁵
Williamson's. . . . .	.35@.35@.35@.35 ⁵
Howe Bros. & Hubert. . . . .	.35 ⁵
<i>Machine—</i>	
Flat Head, Iron. . . . .	.55 ⁵
Round Head, Iron. . . . .	.50 ⁵
<i>Wood—</i>	
List January 1, 1891.	
Flat Head Iron. . . . .	.72@4 ⁵
Round Head Iron. . . . .	.67@4 ⁵
Flat Head Brass. . . . .	.72@4 ⁵
Round Head Brass. . . . .	.65 ⁵
Flat Head Bronze. . . . .	.72@4 ⁵
Round Head Bronze. . . . .	.65 ⁵
Rovers' Drive Screws. . . . .	.35@4 ⁵
<i>Screw Saws—See Saws, Scroll.</i>	
<i>Scythes.</i>	
<i>Grain.....</i>	
Grain. . . . .	.40&5@.40@10 ⁵
Grass. . . . .	.40@10@.50 ⁵
<i>Sythe Scythes—See Scythe, Scythe</i>	
<i>Sets.</i>	
<i>Awi and Tool.</i>	
Aiken's Sets, Awls and Tools.	
No. 20, \$ dos \$10.00.	.55@10 ⁵
Fray's Adj. Tool Hdls., Nos. 1, \$12; 2, \$18; 3, \$12; 4, \$9.	.25@25@10 ⁵
Miller's Falls Adj. Tool Hdls.	
Nos. 1, \$12; 2, \$18. . . . .	.25 ⁵
Henry's Combination Haft.	\$ dos \$6.50
Brad Sets.	
No. 49, \$10.50; No. 48, \$18.50; .70@10@5 ⁵	
Stanley's Excisor:	
No. 1, \$7.50; No. 2, \$4.00; No. 3, \$5.50. . . . .	.30@10 ⁵
<i>Nail—</i>	
Square.	\$ gr. \$4.00@.42 ⁵
Round.	\$ gr. \$3.25 ⁵
Buck Bros. . . . .	.27@5 ⁵
Cannon's Diamond Point.	\$ gr. \$12, 20 ⁵
<i>Sheet.</i>	
<i>Regular list.....</i>	
<i>Saw—</i>	
Stillman's Genuine.	\$ dos \$5.00@7.75
Stillman's Imitation. . . . .	.40@25 ⁵
Leach's. . . . .	.40@5@40@10 ⁵
Common Lever.	\$ dos \$2.00, .40@25 ⁵
Morrill's No. 1, \$16.00; Nos. 2, \$24.00. . . . .	.40@10@5 ⁵
Leach's. No. 0, \$5.00; No. 1, \$15, 15@20 ⁵	
Nash's. . . . .	.60@10@20@10 ⁵
Hammer, Hotchkiss. . . . .	.55, 10, 10 ⁵
Hammer, Bemis & Call Co.'s new Fat. . . . .	.30@5 ⁵
Bemis & Call Co.'s Lever and Spring Hammer. . . . .	.30@5 ⁵
Bemis & Call Co.'s Plate. . . . .	.10 ⁵
Aiken's Genuine. . . . .	.12@5 ⁵
Aiken's Imitation. . . . .	.77.00, .55@10 ⁵
Hart's Pat. Lever. . . . .	.20 ⁵
Diaslon's Star. . . . .	.25 ⁵
Leopold. . . . .	.40@10@.50 ⁵
Atkin's Lever.	\$ dos No. 1, \$6.00
Atkin's Criterion.	\$ dos No. 1, \$6.00
Croissant (Keller), No. 1, \$15.00; No. 2, \$24.00. . . . .	.40@10@10 ⁵
Avery's Saw Set and Punch. . . . .	.50 ⁵
Chieftain H. R. Co.'s Superior. . . . .	.50 ⁵
Crescent.	\$ dos \$15, 50 ⁵
<i>Sarpeneers, Knife.</i>	
Parkins.	
Aprilwood Handles.	\$ dos \$6.00, 10 ⁵
Rose wood or Cocobolo.	\$ dos \$9.00, 10 ⁵
<i>Shaves, Spoke.</i>	
Iron. . . . .	.45 ⁵
Wood. . . . .	.30 ⁵
Bailey's (Stanley R. & L. Co.). . . . .	.40@10 ⁵
Stearns'. . . . .	.30@10 ⁵
Cincinnati. . . . .	.25@10 ⁵
Goodell's. . . . .	.25 ⁵
<i>Shears—</i>	
American (Cast) Iron. . . . .	.75&10@.75@10@5 ⁵
Barnard's Lamp Trimmers.	\$ dos \$3.75
Tinners'. . . . .	.20@25 ⁵
Seymour's, List, Dec. 1881.	.60@10@.60@10@5 ⁵
Heinrich's, List, Dec. 1881.	.60@10@.60@10@5 ⁵
Heinrich's Tailor's Shears. . . . .	.35@4 ⁵
Cast Steel Trimmers:	
First quality. . . . .	.80@80@10 ⁵
Second quality. . . . .	.80@80@10@10 ⁵
Acme Case Shears. . . . .	.10@10 ⁵
Diamond Cast Shears. . . . .	.10 ⁵
Clipper. . . . .	.10@10 ⁵
Victor Cast Shears. . . . .	.75@10@.75@10@5 ⁵
Howe Bros. & Hubert. Solid Forged Steel. . . . .	.40 ⁵
Covert. . . . .	.60@10@.60@10@5 ⁵
Cover, New R. E. . . . .	.60@10@.60@10@5 ⁵
Covered Spring. . . . .	.60@10@10 ⁵
<i>Skeins, Thimble—</i>	
Western list. . . . .	.75&5@.75@10@5 ⁵
Columbus Wrt. Steel, Special net price.	
Coldbrookdale Iron Co. . . . .	.60 ⁵
Seneca Falls Pattern. . . . .	.60 ⁵
Utica P. S. T. Skeins. . . . .	.60 ⁵
Utica Turned and Fitted. . . . .	.35 ⁵
<i>Slates—</i>	
School, by case. . . . .	.50@10@.50@10@10 ⁵
<i>Snaps, Harness, &c.—</i>	
Anchor (T. & B. Mfg. Co.). . . . .	.65 ⁵
Fitch's (Bristol). . . . .	.50@10 ⁵
Hotchkiss. . . . .	.10 ⁵
Andrews. . . . .	.50 ⁵
Sargent's Patent Guarded. . . . .	.70@10@10 ⁵
German, new list. . . . .	.40@10 ⁵
Covert. . . . .	.50@10@.50@10@5 ⁵
Covert, New Patent. . . . .	.60@10@.60@10@5 ⁵
Cover, New R. E. . . . .	.60@10@.60@10@5 ⁵
<i>Stocks and Dies—</i>	
Blacksmith's	
Waterford Goods. . . . .	.40@4@10@10 ⁵
Butterfield's Goods. . . . .	.40@4@10@10 ⁵
Lightning Screw Plate. . . . .	.25@20 ⁵
Beece's New Screw Plates. . . . .	.35@4@5@40@40 ⁵
Reversible Ratchet. . . . .	.30 ⁵
Gardiner. . . . .	.25 ⁵
<i>Stops, Bench.</i>	
Morrill's.	
Hotchkiss's.	\$ dos \$5, 10@10@10 ⁵
Weston's, No. 1, \$10; No. 2, \$9.25@10@5 ⁵	
McGill's.	\$ dos \$5, .10 ⁵
Cincinnati. . . . .	.25@10 ⁵
<i>Stone—</i>	
Hindostan No. 1, \$4; Axe, \$4@; Slips No. 1, 4 ⁵	
Sand Stone.	\$ dos \$2@2 ⁵
Washita Stone, Extra.	\$ dos \$2@2 ⁵
Washita Stone, No. 1.	\$ dos \$1@1@2 ⁵
Washita Slips, No. 1, Extra.	\$ dos \$7@4@4 ⁵
Washita Slips, No. 1.	\$ dos \$2@2 ⁵
Arkansas Stone, No. 1, 4 to 6 in.	\$ dos \$1.50
Arkansas Stone, No. 1, 6 to 9 in.	\$ dos \$1.50
Turkey Stone.	\$ dos \$1.00@1.50
Lake Superior, Chase.	\$ dos \$1@1@2 ⁵
Lake Superior Slips, Chase.	\$ dos \$2@2 ⁵
Seneca Stone, Red Paper Brand. . . . .	.10@2@2 ⁵
Seneca Stone, High Rounds.	\$ dos \$2@2 ⁵
Seneca Stone, Small Plates.	\$ gro \$24.00
<i>Steve Polish—See Polish, Stove.</i>	
<i>Stretchers, Carpet.</i>	
Cast Steel, Polished.	\$ dos \$2.25
Cast Iron, Steel Points.	\$ dos \$0@
Socket.	\$ dos \$1.75
Jullard's. . . . .	.25@25@10 ⁵
<i>Straps, Razor—</i>	
Genuine Emerson. . . . .	.60@6@5@5
Imitation "	\$ dos \$2.00, 20@10@5 ⁵
Torrey's. . . . .	.20 ⁵
Badger's Belt and Com.	\$ dos \$2.00
Lamont Combination.	\$ dos \$4.00
Jordan's Pat. Padded, list Nov. 1, \$9.50	
Electric. . . . .	.List net
<i>Stuffing or Fillers, Sausage—</i>	
Miles' "Challenge," \$ dos \$20, 50@5@5 ⁵	
Perry.	\$ dos, No. 1, \$15.00; No. 0, \$11.00
Draw Cut No. 4, each \$30.00.	
Enterprise Mfg. Co. . . . .	.20@10@30@5 ⁵
Silver's. . . . .	.40@10 ⁵
<i>Sweepers, Carpet.</i>	
Bissell No. 5.	\$ dos \$17.00
Bissell No. 7 New Drop Pan.	\$ dos \$10.00
Bissell, Grand.	\$ dos \$36.00
Grand Rapids.	\$ dos \$34.00
Crown Jewel, No. 1.	\$ dos \$18.00; No. 2, \$20.00
Magic.	\$ dos \$15.00
Jewel.	\$ dos \$12.00
Improved Parlor Queen.	\$ dos \$17.00
Nickelated.	\$ dos \$27.00
Japanned.	\$ dos \$24.00
Excelsior.	\$ dos \$22.00
Garland.	\$ dos \$18.00
Parlor Queen.	\$ dos \$24.00
Housewife's Delight.	\$ dos \$15.00
Queen.	\$ dos \$16.00
Queen, with band.	\$ dos \$18.00
King.	\$ dos \$20.00
Weed, Improved.	\$ dos \$18.00
Hub.	\$ dos \$16.00
Cog-Wheel.	\$ dos \$16.00
Easy.	\$ dos \$12.00
Monarch.	\$ dos \$12.00
Goshen.	\$ dos \$12.00
Ladies' Friend.	\$ dos \$15.00
Advance.	\$ dos \$18.00
Supreme.	\$ dos \$22.00
<i>Tacks, Brads, &c.—</i>	
List October 19, 1889. Old established standard weights.	
<i>Carpet Tacks—</i>	
American Iron, Blued. . . . .	.80 ⁵
Am. Iron, Tin'd or Cop'd. . . . .	.50@10 ⁵
Steel, Plain or Bright. . . . .	.75@10 ⁵
Steel, Tinned or Coppered. . . . .	.80 ⁵
Swedes Iron, Blued. . . . .	.75@10 ⁵
Swedes Iron, Tin'd or Cop'd. . . . .	.80 ⁵
American Iron Cut Tacks. . . . .	.80 ⁵
Swedes Iron, Upholsterers' Tacks. . . . .	.60 ⁵
Tinned. . . . .	.60 ⁵
Gimp and Lace Tacks, Blued. . . . .	.75@10 ⁵
Gimp and Lace Tacks, Tin'd. . . . .	.75@10 ⁵
Swedes Iron Basket or Trimmers Tacks. . . . .	.60 ⁵
Tacks. . . . .	.75@10 ⁵
Miner's Tacks. . . . .	.60 ⁵
Hill-Posters' or RR Tacks. . . . .	.75@10 ⁵
Hill-Posters' or Railroad Tacks. . . . .	.75@10 ⁵
Tinned. . . . .	.60 ⁵
Copper Tacks. . . . .	.40 ⁵
Copper Finish & Trunk Nails. . . . .	.40 ⁵
Copper Box Nails. . . . .	.40 ⁵
Zinc Glaziers' Points. . . . .	.40 ⁵
Picture Frame Points. . . . .	.40 ⁵
Looking-Glass Tacks. . . . .	.40 ⁵
Brush Tacks. . . . .	.40 ⁵
Brushed Capped Trunk Nails. . . . .	.55 ⁵
Finishing Nails. . . . .	.70@10 ⁵
Trunk and Cloud Nails, Black and Tinned. . . . .	.75 ⁵
Common and Patent Brads. . . . .	.75 ⁵
Hanarian Nails. . . . .	.75 ⁵
Basket and Chair Nails. . . . .	.70@10 ⁵
Leathered Carpet Tacks. . . . .	.55 ⁵
<i>Miscellaneous—</i>	
Double-Pointed, 120 count. . . . .	.35@10 ⁵
Wire Carpet Nails. . . . .	.50@10 ⁵
Plymouth Rock Steel Carpet Tacks. . . . .	.25@20 ⁵
Wire Brads & Nails, see Nails, Wire.	
Steel-Wire Brads, H. & E. Mfg. Co.'s list. . . . .	.50@10 ⁵
<i>Tapes, Measuring—</i>	
American. . . . .	.40@40@5 ⁵
Spring. . . . .	.40 ⁵
Chesterman's, Regular list. . . . .	.35@30 ⁵
<i>Thermometers—</i>	
Tin Case. . . . .	.50@30@10 ⁵

Thimble Skeins—See Skeins.**Ties, Bale—Steel**

standard Wire, list..... 50&1025

Tinners' Shears, &c.—See Shears.
Tinners', &c.**Tinware—**Stamped, Jappanned and Pieced, list
Jan. 20 1887..... 70&10/70k10&5**Tire Benders, Upsetters, &c.—**
See Benders and Upsetters, Tire.**Toels.****Coopers'—**

Bradley's..... 20%

Barton's..... 20&20/20%

L. & J. White..... 20/25

Albertson Mfg. Co..... 25

Beatty's..... 30

Sandusky Tool Co..... 20&20/20%

Shaves, Cincinnati Tool Co..... 20%

Lumber.

Ring Peavies, "Blue Line"..... ♀ dos \$20.00

Ring Peavies, Common..... ♀ dos \$18.00

Steel Socket Peavies..... ♀ dos \$21.00

Mall Iron Socket Peavies..... ♀ dos \$19.00

Cant Hooks, "Blue Line"..... ♀ dos \$21.00

Cant Hooks, Common Finish, Wdg..... 21/40

Cant Hooks, Mall. Socket Clasp, "Blue
Line" Finish..... 21/40Cant Hooks, Mall. Socket Clasp, Com-
mon Finish..... ♀ dos \$14.50Cant Hooks, Clip Clasp, "Blue Line"
Finish..... ♀ dos \$14.00Cant Hooks, Clip Clasp, Common Fin-
ish..... ♀ dos \$12.00Hand Spikes..... ♀ dos 6 ft., \$15.00; 8 ft.,
\$20.00Pike Poles, Pike & Hook, ♀ dos, 12 ft.
111/2 ft., \$12.50; 16 ft., \$14.50;

18 ft., \$17.50; 20 ft., \$21.50.

Pike Poles, Pike only, ♀ dos, 12 ft.,
\$10.00; 14 ft., \$11.00; 16 ft., \$13.00; 18
ft., \$16.00; 20 ft., \$20.00.Pike Poles, not ironed, ♀ dos, 12 ft.,
\$6.00; 14 ft., \$7.00; 16 ft., \$9.00; 18
ft., \$12.00; 20 ft., \$16.00.Setting Poles, ♀ dos, 12 ft., \$14.00; 14
ft., \$15.00; 16 ft., \$17.00

Swamp Hooks..... ♀ dos \$18.00

Saw.

Atkins' Perfection..... ♀ dos \$19.00

Atkins' Excelsior..... ♀ dos \$6.00

Atkins' Giant..... ♀ dos \$4.00

**Tobacco Cutters—See Cutters, To-
bacco.****Transom Lifters—See Lifters, To-
ransom.****Traps—****Game—**

Newhouse..... 40&20/25

Oneida Pattern..... 70&10/10

Game, Blake's Patent..... 40&20/25

Mouse and Rat—

Mouse Wood, Choker, ♀ dos holes, 11/2

Mouse, Round Wire, ♀ dos \$1.50, 10%

Mouse, Cage, Wire, ♀ dos \$2.50, 10%

Mouse, Catch-'em-alive, ♀ dos \$2.50, 15%

Mouse, Bonanza, ♀ dos \$9.00 to \$1.00

Rat, Decoy, ♀ gr \$10.00, 10%

Ideal, ♀ gr \$10.00

Cyclole, ♀ gr \$6.25

Hotchkiss Metallic Mouse, 5-hole trap,
♀ dos, 90%; in full cases, ♀ dos, 15/4

Hotchkiss Imp. Rat Killer, ♀ gro \$6.50

Hotchkiss New Rat Killer, ♀ gro \$6.50

Schuyler's Rat Killer, ♀ gro \$16.00

Massey Combination Pipe, ♀ gro \$16.00

Trilers—

Butter and cheese..... 25%

Trimmers, Spoke.

Bonney's..... ♀ dos \$10.00, 50%

Stearns', 30&10%

Ives', No. 1, \$15.00; No. 2, \$12.00 ♀ dos,

55&10%

Douglas', ♀ dos \$9.00, 20%

Cincinnati..... 30%

Trowels—

Lothrop's Brick and Plastering, 20&10/5/35

Reed's Brick and Plastering, 15%

Dialton's Brick and Plastering, 20%

Pease's Plastering, 25%

Clement & Maynard's, 20%

Ross' Brick, 15&20%

Brade's Brick, 25

Worrall's Brick and Plastering, 20%

Garden..... 70%

Trucks, Warehouse, &c.—

B. & L. Block Co.'s list, '83..... 40%

Tubes, Bellier—

See Pipe.

Twine—

Flax Twine—BC. B. No. 9, 1/4 and 1/2 Balls, 26¢ 34¢

No. 12, 1/4 and 1/2 Balls, 26¢ 33¢

No. 18, 1/4 and 1/2 Balls, 22¢ 32¢

No. 36, 1/4 and 1/2 Balls, 26¢ 31¢

No. 264, Mattress, 1/4 and 1/2 Balls, 52¢ 54¢

Chalk Line, Cotton, 1/4 & Balls, 25¢

Mason Line, Linen, 1/4 & Balls, 55¢

2-Ply Hemp, 1/4 and 1/2 Balls (Spring
Twine)..... 15¢

3-Ply Hemp, 1/2 Balls, 16¢ 16¢

5-Ply Hemp, 1/4 & Balls, 16¢ 15¢

Cotton Wrapping, 5 Balls to 15¢ 16¢

3, 4 and 5-Ply Jute, 1/4 & Balls, 10¢

Wool, 6¢ 6¢

Paper, 13¢ 14¢

Cotton Mops, 6, 9, 12 and 15 & to doz, 18¢

Vises—

Solid Box..... 50&10/50&10/5

Parallel—

Fisher & Norris Double Screw, 15&10¢

Stephens', 25&30¢

Parker's, 20&25¢

Howard's, 40¢

Bonney's, 40&10¢

Miller's Falls, 40&40/10/15/20/25/30/35/40/45/50/55/60/65/70/75/80/85/90/95/100/105/110/115/120/125/130/135/140/145/150/155/160/165/170/175/180/185/190/195/200/205/210/215/220/225/230/235/240/245/250/255/260/265/270/275/280/285/290/295/295/300/305/310/315/320/325/330/335/340/345/350/355/360/365/370/375/380/385/390/395/395/400/405/410/415/420/425/430/435/440/445/450/455/460/465/470/475/480/485/490/495/495/500/505/510/515/520/525/530/535/540/545/550/555/560/565/570/575/580/585/590/595/595/600/605/610/615/620/625/630/635/640/645/650/655/660/665/670/675/680/685/690/695/695/700/705/710/715/720/725/730/735/740/745/750/755/760/765/770/775/780/785/790/795/795/800/805/810/815/820/825/830/835/840/845/850/855/860/865/870/875/880/885/890/895/895/900/905/910/915/920/925/930/935/940/945/950/955/960/965/970/975/980/985/990/995/995/1000/1005/1010/1015/1020/1025/1030/1035/1040/1045/1050/1055/1060/1065/1070/1075/1080/1085/1090/1095/1095/1100/1105/1110/1115/1120/1125/1130/1135/1140/1145/1150/1155/1160/1165/1170/1175/1180/1185/1190/1195/1195/1200/1205/1210/1215/1220/1225/1230/1235/1240/1245/1250/1255/1260/1265/1270/1275/1280/1285/1290/1295/1295/1300/1305/1310/1315/1320/1325/1330/1335/1340/1345/1350/1355/1360/1365/1370/1375/1380/1385/1390/1395/1395/1400/1405/1410/1415/1420/1425/1430/1435/1440/1445/1450/1455/1460/1465/1470/1475/1480/1485/1490/1495/1495/1500/1505/1510/1515/1520/1525/1530/1535/1540/1545/1550/1555/1560/1565/1570/1575/1580/1585/1590/1595/1595/1600/1605/1610/1615/1620/1625/1630/1635/1640/1645/1650/1655/1660/1665/1670/1675/1680/1685/1690/1695/1695/1700/1705/1710/1715/1720/1725/1730/1735/1740/1745/1750/1755/1760/1765/1770/1775/1780/1785/1790/1795/1795/1800/1805/1810/1815/1820/1825/1830/1835/1840/1845/1850/1855/1860/1865/1870/1875/1880/1885/1885/1890/1895/1895/1900/1905/1910/1915/1920/1925/1930/1935/1940/1945/1950/1955/1960/1965/1970/1975/1980/1985/1990/1995/1995/2000/2005/2010/2015/2020/2025/2030/2035/2040/2045/2050/2055/2060/2065/2070/2075/2080/2085/2090/2095/2095/2100/2105/2110/2115/2120/2125/2130/2135/2140/2145/2150/2155/2160/2165/2170/2175/2180/2185/2190/2195/2195/2200/2205/2210/2215/2220/2225/2230/2235/2240/2245/2250/2255/2260/2265/2270/2275/2280/2285/2290/2295/2295/2300/2305/2310/2315/2320/2325/2330/2335/2340/2345/2350/2355/2360/2365/2370/2375/2380/2385/2390/2395/2395/2400/2405/2410/2415/2420/2425/2430/2435/2440/2445/2450/2455/2460/2465/2470/2475/2480/2485/2490/2495/2495/2500/2505/2510/2515/2520/2525/2530/2535/2540/2545/2550/2555/2560/2565/2570/2575/2580/2585/2590/2595/2595/2600/2605/2610/2615/2620/2625/2630/2635/2640/2645/2650/2655/2660/2665/2670/2675/2680/2685/2690/2695/2695/2700/2705/2710/2715/2720/2725/2730/2735/2740/2745/2750/2755/2760/2765/2770/2775/2780/2785/2790/2795/2795/2800/2805/2810/2815/2820/2825/2830/2835/2840/2845/2850/2855/2860/2865/2870/2875/2880/2885/2885/2890/2895/2895/2900/2905/2910/2915/2920/2925/2930/2935/2940/2945/2950/2955/2960/2965/2970/2975/2980/2985/2985/2990/2995/2995/3000/3005/3010/3015/3020/3025/3030/3035/3040/3045/3050/3055/3060/3065/3070/3075/3080/3085/3085/3090/3095/3095/3100/3105/3110/3115/3120/3125/3130/3135/3140/3145/3150/3155/3160/3165/3170/3175/3180/3185/3185/3190/3195/3195/3200/3205/3210/3215/3220/3225/3230/3235/3240/3245/3250/3255/3260/3265/3270/3275/3280/3285/3290/3295/3295/3300/3305/3310/3315/3320/3325/3330/3335/3340/3345/3350/3355/3360/3365/3370/3375/3380/3385/3385/3390/3395/3395/3400/3405/3410/3415/3420/3425/3430/3435/3440/3445/3450/3455/3460/3465/3470/3475/3480/3485/3485/3490/3495/3495/3500/3505/3510/3515/3520/3525/3530/3535/3540/3545/3550/3555/3560/3565/3570/3575/3580/3585/3585/3590/3595/3595/3600/3605/3610/3615/3620/3625/3630/3635/3640/3645/3650/3655/3660/3665/3670/3675/3680/3685/3685/3690/3695/3695/3700/3705/3710/3715/3720/3725/3730/3735/3740/3745/3750/3755/3760/3765/3770/3775/3780/3785/3785/3790/3795/3795/3800/3805/3810/3815/3820/3825/3830/3835/3840/3845/3850/3855/3860/3865/3870/3875/3880/3885/3885/3890/3895/3895/3900/3905/3910/3915/3920/3925/3930/3935/3940/3945/3950/3955/3960/3965/3970/3975/3980/3985/3985/3990/3995/3995/4000/4005/4010/4015/4020/4025/4030/4035/4040/4045/4050/4055/4060/4065/4070/4075/4080/4085/4090/4095/4095/4100/4105/4110/4115/4120/4125/4130/4135/4140/4145/4150/4155/4160/4165/4170/4175/4180/4185/4185/4190/4195/4195/4200/4205/4210/4215/4220/4225/4230/4235/4240/4245/4250/4255/4260/4265/4270/4275/4280/4285/4290/4295/4295/4300/4305/4310/4315/4320/4325/4330/4335/4340/4345/4350/4355/4360/4365/4370/4375/4380/4385/4385/4390/4395/4395/4400/4405/4410/4415/4420/4425/4430/4435/4440/4445/4450/4455/4460/4465/4470/4475/4480/4485/4485/4490/4495/4495/4500/4505/4510/4515/4520/4525/4530/4535/4540/4545/4550/4555/4560/4565/4570/4575/4580/4585/4585/4590/4595/4595/4600/4605/4610/4615/4620/4625/4630/4635/4640/4645/4650/4655/4660/4665/4670/4675/4680/4685/4685/4690/4695/4695/4700/4705/4710/4715/4720/4725/4730/4735/4740/4745/4750/4755/4760/4765/4770/4775/4780/4785/4785/4790/4795/4795/4800/4805/4810/4815/4820/4825/4830/4835/4840/4845/4850/4855/4860/4865/4870/4875/4880/4885/4885/4890/4895/4895/4900/4905/4910/4915/4920/4925/4930/4935/4940/4945/4950/4955/4960/4965/4970/4975/4980/4985/4985/4990/4995/4995/5000/5005/5010/5015/5020/5025/5030/5035/5040/5045/5050/5055/5060/5065/5070/5075/5080/5085/5085/5090/5095/5095/5100/5105/5110/5115/5120/5125/5130/5135/5140/5145/5150/5155/5160/5165/5170/5175/5180/5185/5185/5190/5195/5195/5200/5205/5210/5215/5220/5225/5230/5235/5240/5245/5250/5255/5260/5265/5270/5275/5280/5285/5285/5290/5295/5295/5300/5305/5310/5315/5320/5325/5330/5335/5340/5345/5350/5355/5360/5365/5370/5375/5380/5385/5385/5390/5395

CURRENT METAL PRICES.

JULY 22, 1891.

The following quotations are for small lots. Wholesale prices, at which large lots only can be bought, are given elsewhere in our weekly market reports.

IRON AND STEEL.**Bar Iron from Store.**

Common Iron:	
1/2 to 2 in. round and square...	W D 2.00 @ 2.10
1 to 6 in. x 1/2 to 1 in....	W D 2.00 @ 2.10
Reinforced Iron:	
1/2 to 2 in. round and square...	W D 2.10 @ 2.30
1/4 to 6 in. x 1/2 to 1 in....	W D 2.30 @ 2.50
1 to 6 in. x 1/4 and 5-1/2...	W D 2.30 @ 2.50
Bands - 1/2 and 11-1/2 round and sq...	W D 2.20 @ 2.40
Bands - 1 to 6 x 5-1/2 to No. 12...	W D 2.40 @ 2.60
"Buried Best" Iron, base price...	W D 3.00
Burden's "H. B. & S." Iron, base price...	W D 2.80
"Ulster"	W D 3.00
Norway Bars	4.00
Norway Shapes	5.00

Merchant Steel from Store.

Per pound.

Open-Hearth and Bessemer Machinery, Toe Calk, Tire and Sleigh Shoe, base price in small lots.....	294¢
Best Cast Steel, base price in small lots	8¢
Best Cast Steel Machinery, base price in small lots.....	5¢

Sheet Iron from Store.

Common American.	R. G.	Cleaned.
10 to 16.....	W D 3.00	@ 3.00
17 to 20.....	W D 3.15	@ 3.25
21 to 24.....	W D 3.25	@ 3.30
25 and 26.....	W D 3.35	@ 3.40
27.....	W D 3.50	@ 3.60
28.....	W D 3.65	@ 3.85
B. B.		2d qual.
Galv'd, 14 to 20, W D 4.75	@ 4.60	
Galv'd, 21 to 24, W D 5.12	@ 5.00	
Galv'd, 25 to 26, W D 5.50	@ 5.35	
Galv'd, 27.....	W D 5.90	@ 5.70
Galv'd, 28.....	W D 6.25	@ 6.10
Patent Planished.....	W D 8 to 10	B. B.
Russia.....	W D 10	@ 11¢
American Cold Rolled B. B.....	W D 10	@ 7¢
Oraig Polished Sheet Steel.....	W D 8	6¢

English Steel from Store.

Best Cast.....	W D 15	¢
Extra Cast.....	W D 16	@ 17
Swaged, Cast.....	W D 16	¢
Best Double Shear.....	W D 15	¢
Elatier, 1st quality.....	W D 12	¢
German Steel, Best 2d quality.....	W D 10	¢
3d quality.....	W D 9	¢
Sheet Cast Steel, 1st quality.....	W D 8	¢
2d quality.....	W D 14	¢
3d quality.....	W D 12	¢
R. Mushet's "Special".....	W D 48	¢
" " " Titanic".....	W D 20	¢

METALS.**Tin.**

Per D.

Banco, Pigs.....	224¢
Straits, Pigs.....	22¢
Straits in Bars.....	24¢

Tin Plates.

Charcoal Plates.—Bright.	Per box.	
Melyn Grade.....	IC, 10 x 14.....	W D 9.75
" "	IC, 12 x 12.....	7.00
" "	IC, 14 x 20.....	6.75
" "	IC, 20 x 28.....	13.70
" "	IX, 10 x 14.....	8.25
" "	IX, 12 x 12.....	8.50
" "	IX, 14 x 20.....	8.25
" "	IX, 20 x 28.....	16.50
" "	DC, 19½ x 17.....	6.25
" "	DX, 19½ x 17.....	7.75
Galland Grade.....	IC, 10 x 14.....	6.70
" "	IC, 12 x 12.....	6.95
" "	IC, 14 x 20.....	6.60
" "	IX, 10 x 14.....	7.85
" "	IX, 12 x 12.....	8.20
" "	IX, 14 x 20.....	7.85
Allaway Grade.....	IC, 10 x 14.....	6.35
" "	IC, 12 x 12.....	6.50
" "	IC, 14 x 20.....	6.35
" "	IC, 20 x 28.....	12.40
" "	IX, 10 x 14.....	7.50
" "	IX, 12 x 12.....	7.80
" "	IX, 14 x 20.....	7.50
" "	IX, 20 x 28.....	15.00
" "	DC, 19½ x 17.....	6.80
" "	DX, 19½ x 17.....	7.00
Coke Plates.—Bright.		
Steel Coke.—IC, 10 x 14, 14 x 20.....	@ 5.70	
10 x 20.....	8.10	
20 x 28.....	11.70	
IX, 10 x 14, 14 x 20.....	6.60	
BV Grade.—IC, 10 x 14, 14 x 20.....	5.70	
Charcoal Plates.—Terne.		
Dean Grade.—IC, 14 x 20.....	W D 8.45	
20 x 28.....	10.60	
IX, 14 x 20.....	6.20	
20 x 28.....	12.35	
Abecarne Grade.—IC, 14 x 20.....	5.25	
20 x 28.....	10.60	
IX, 14 x 20.....	6.35	
20 x 28.....	12.35	

Coke Plates.—Terne.

Dean Grade.—IC, 14 x 20.....	W D 8.45
20 x 28.....	10.60
IX, 14 x 20.....	6.20
20 x 28.....	12.35
Abecarne Grade.—IC, 14 x 20.....	5.25
20 x 28.....	10.60
IX, 14 x 20.....	6.35
20 x 28.....	12.35

Tin Boiler Plates.

IXX, 14 x 26.....	112 sheets.....	W D \$12.50
IXX, 14 x 28.....	112 sheets.....	W D 13.75
IXX, 14 x 31.....	112 sheets.....	W D 15.25

Copper.

DUTY: Pig, Bar and Jugot, 13¢; Old Copper, 1¢ per lb. Manufactured (including all articles of which Copper is a component of chief value), 83¢ ad valorem.

Ingot.

Lake.....	W D 14	¢
Ansonia Grade Arizona.....	W D 13	¢
Ansonia Grade Casting.....	W D 13	¢
Sheet and Bolt.		

Prices adopted by the Association of Copper Manufacturers of the United States, December 5, 1890, being quotations for all sized lots.

Not wider than	Not longer than	And longer than	Weights per square foot and prices per pound.							
			Over 64 oz.	32 to 64 oz.	16 to 32 oz.	14 to 16 oz.	12 to 14 oz.	10 to 12 oz.	8 to 10 oz.	Less than 8 oz.
30-72	22	22	22	22	22	24	25	26	27	30
36-96	22	22	22	22	22	25	27	31	33	36
48-96	22	22	22	24	26	28	30	33	36	40
48-96	22	22	22	24	26	28	30	33	36	40
60-96	22	22	22	27	30	34	36	38	40	44
60-96	22	22	22	27	30	34	36	38	40	44
84-96	23	24	—	—	—	—	—	—	—	—
84-96	24	25	—	—	—	—	—	—	—	—
Over 84 in. wide	25	27	—	—	—	—	—	—	—	—

All Bath Tub Sheets..... 16 oz. 14 oz. 12 oz. 10 oz.

Per pound..... 20.27 0.29 0.31 0.35

Bolt Copper, 1/4 inch diameter and over, per pound.

Circles, 60 inches in diameter and less, 8 cents per pound advance over lowest prices of Sheet Copper of the same thickness.

Copper Bottoms, Pits and Flats.

14 ounce to square foot and heavier..... 26¢

12 ounce and up to 14 ounce to square foot..... 27¢

10 ounce and up to 12 ounce..... 28¢

Lighter than 10 ounce..... 29¢

Circles less than 8 inches diameter 2 cents per pound additional.

Circles over 18 inches diameter are not classed as Copper Bottoms.

Tinning.

Tinning sheets on one side, 10, 12 and 14 x 48 each.....	8¢
Tinning sheets on one side, 30 x 60 each.....	30¢
For tinning boiler sizes, 9 in. (sheets 14 in. x 60 in. each), each.....	15¢
For tinning boiler sizes, 8 in. (sheets 14 in. x 56 in. each), each.....	12¢
For tinning boiler sizes, 7 in. (sheets 14 in. x 52 in. each), each.....	10¢
Tinning sheets on one side, other sizes, per square foot.....	2¢
For tinning both sides double the above prices.	

Plated Brass and Copper.

14 x 48, 14 x 52, 14 x 56, 14 x 60 in.

14 and 16 oz. and heavier..... 38¢. By the case..... 38¢ per lb.

12 oz. and lighter..... 35¢. By the case..... 35¢ per lb.

24 x 48 and 30 x 60..... 34¢

14 and 16 oz. and heavier..... 36¢. 12 oz..... 36¢ per lb.

Seamless Brass and Copper Tubes.

O. G.	N. G.	%	%	%	%	%	%	1	1½
8-14	6-12	37	33	30	29	28	27	24	
15	13	58	55	51	50	49	48	45	
16	14	50	48	45	44	43	42	39	
17	15	40	35	33	31	30	29	26	
18	16	42	36	34	32	31	30	27	
19	17	45	37	34	32	30	28	25	
20	18-19	49	42	39	36	34	31	28	
20	20	41	35	38	37	35	32	29	
21	21	48	42	40	39	38	35	32	
22	22	50	44	42	41	40	39	36	
23	23	53	46	44	42	41	39	36	
24	23	53	46	44	42	41	40	37	
25	24	56	49	46	45	44	43	40	

Copper Bronze and Gilding Tube, 3¢ per lb. additional.

Brazed Brass Tubing. (To No. 20, inclusive.)